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Alpha Pharm



50

Cover image of Greg Plitt By Jason Ellis

By Jason Ellis www.JasonEllisPhotography.com







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### BECOME A LEGEND IN YOUR **OWN RIGHT**

legend is generally defined as a famous person who is known for doing something extremely well. In the fitness world no one fits the bill quite like Greg Plitt. His superior genetics, his drive to succeed, his desire to push boundaries, and his insanely positive attitude made him a giant among men; a legend in every sense of the word.

Unfortunately those same characteristics are what led to his untimely death in 2015 while trying to push the boundaries during one of his legendary workout shoots. It left the fitness world stunned, but it made a living legend an immortal one

So many of the athletes and models I engage with around the world hold Greg in the highest regard. They attribute their desire to enter the industry to his success and the path he blazed for them. Their admiration helped to build Greg's status as the greatest male fitness model and celebrity the world has ever seen, and because of that his legend will live on forever.

But, as you'll read in our previously unpublished interview with Greg, conducted at the zenith of his career, he was just a normal guy, like you or I. Sure, he had exceptional genetics and cover model looks, but his attitude and work ethic is what truly set him apart. It's conceivable then that we too can achieve legend status. In fact, if you check the dictionary definition of the word 'legend' you'll see that

many entries state "a famous or important person who is known for doing something extremely well." That means we may not be a legend in the global context, like Greg was, but we can certainly be legends in our own right, within our own social circles.

To become a legend in one's own right holds just as much value as that of the iconic legends built through mass acclaim. The positive. inspiring effects you can have on those around you can be just as impactful. However, to achieve this status you need to achieve greatness as a result of your own efforts, rather than through an association with someone else. That means taking the lead and doing something out of the ordinary, extraordinary even, to inspire friends, family and acquaintances.

I see it almost every weekend or read about it in submissions we get every day. Someone who was once overweight and unhealthy decided to take charge and change their life. They worked hard, lost the weight, and ran their first marathon or stepped on the competitive stage. Their actions and subsequent success inspired others to follow suit, indelibly changing the lives of those around them. As far as I'm concerned, this is what true legends are made of. Forget celebrity status - how many social media followers or 'likes' you have - and how many magazine covers you've secured. That's not how true legends like Greg measure themselves. They measure their legend status according to the number of lives they impact and change, and you too can do the same by going beyond the ordinary to achieve the seemingly extraordinary. In doing so you become a legend in your own right, and in the minds and hearts of those closest to you. That is how you leave an enduring legacy of your own, just like Greg did.

We hope this issue gives you the inspiration you need to go out there and achieve something legendary. Enjoy issue 22.

#### **PEDRO VAN GAALEN Editor**







#### **MUST READ**



## In case you missed it...

WHAT READERS HAVE BEEN UP TO ON INSTAGRAM





















#### On the cover...









**Exercise Specialist Kettlebells** 

Group Fitness Posture Specialist Fuctional Training Human movement Sports Psychology Studio Cycle Kids Development Coaching Science

### **Fitness & Sports Courses**

Our sports and fitness courses equip you with knowledge of fitness principles and the use of equipment, training, coaching and screening techniques so that you can work in a multitude of health and fitness jobs and in sports-specific environments at a professional



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Vuyani Mashego HFPA Ambassador

#### "Stagnation and laziness have no place in life.

Only perseverance and progress can keep a mind from going stale and a body from growing weak.



#### **PERSEVERANCE**

Tou don't burn out mentally, because vou alwavs burn out physically. In life, it isn't the guy with the best genetics who wins or the guy with the most potential that wins, it's the guy with the most perseverance that wins, the one who is always willing to get up and go at it again and again. That's the guy who has his hand raised in victory and that's the guy you need to be!"

There are tons of videos on YouTube that you can watch for some motivation and inspiration, but in my opinion, nothing comes close to those made by Greg Plitt. He had such an impact on the world of fitness during his short career. Sadly, on the 17th January 2015 the world lost one of the greatest fitness ambassadors to ever walk the earth when he was struck by a train while filming a video in the USA.

Since the inception of this magazine I have always wanted to work with Greg. I'm sad that I never got the opportunity to chat to or meet him or just be lucky enough to experience the man's incredible energy. What's important to note is that Greg was a huge advocate of living life to the full, which is why he lived his own life fearlessly.

One of my favourite quotes from Greg is: "If your day doesn't challenge you, then your day doesn't change you". This is something I try to live by each and every day. Some people go

through life guite happy with the way things are, not needing to change anything or push harder to make progress. But in the world of fitness, that's not the way you make progress. Being comfortable with the status quo means you won't train harder, get leaner, get stronger or reach your fitness goals. Being comfortable means only one thing – stagnation. The very thought of the word makes me cringe; makes me feel like I'm taking up space on an already overpopulated planet. If I'm not here to improve the world, change it, and in doing so push myself to be better, then what am I doing here?

Stagnation and laziness have no place in life. Only perseverance and progress can keep a mind from going stale and a body from growing weak. Being aware of that fact is the most important state of mind you can achieve and you must live within that mind frame daily.

And that's the point of this publisher's letter - life is just one big mind game. We don't wake up every day ready to take on the world. Some days we wake up and don't feel like accomplishing much at all, and that's perfectly okay. What does matter is that we're constantly aware of our current state of mind and that we check ourselves to ensure we get back on track after some down time from the mental and physical grind of always pushing forward.

This issue is dedicated to those who never stop; those who choose to never settle for anything less than the best; those who laugh at normality; those who rise above the crowd and laugh in the face of what society deems as acceptable; those who know that success is an emotion you experience when you are completely fulfilled and content with where you are in life without being defined by the standards and attitudes set by those who aren't interested in leaving behind a legacy.

"Right here in the very endeavours of life, we have the opportunity to be remembered, or be forgotten." Thank you Greg.

Enjoy this "Immortal" edition.

**ANDREW CARRUTHERS Publisher** 









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## RECHARGE BODY: MOBILE CONVENIENCE



Rechargebody.co.za is a mobile yoga, Pilates and massage service that has been launched in Cape Town to cater for the increase in demand for activities in locations outside of the gym and studio environment.

Visitors to the website are presented with several professional practitioners across the three different services on offer. The yoga options include Vinyasa,

Bikram and Hatha, and the massage treatments include deep, swedish, sports and thai. Once a booking is confirmed and paid for, the Recharge Body practitioner travels directly to the client's home, office, guesthouse, hotel, or preferred outdoor location, bringing with them all the necessary equipment. This new-age, mobile convenience service, makes booking a private yoga, Pilates or massage practitioner a breeze for at-home clients, busy executives and visitors to Cape Town. Visit rechargebody.co.za to find out more or email hello@rechargebody.co.za.

## TRAININGTIME CONNECTS TRAINERS WITH CLIENTS

TrainingTime is a marketplace geared toward connecting personal trainers, coaches, and health and sports professionals with clients. Clients can book and pay a professional with their credit card, while trainers, coaches, and health or sports professionals are able to manage their calendars and receive credit card payments without the admin and costs

associated with being a credit card merchant. Clients pay no sign-up or transaction fees and signing up is an easy four-step process. The sign-up process for trainers is also quick and easy. No sign-up fees apply, but a nominal transaction fee and a percentage of the booking rate will be charged.

For more info visit www.trainingtime.co.za



## POWER UP

FACTS, FIGURES, NEWS AND INFO FOR THE FITNESS ENTHUSIAST

### **TOP READS THIS MONTH**



#### THE BANTING SOLUTION

#### By Bernadine Douglas and Bridgette Allan

This book on the Banting diet aims to answer any questions readers may have about the Banting lifestyle,

and provides a solution to weight loss. The Banting Solution explains what Banting is all about, busts the myths that have cropped up around the diet, provides helpful meal plans and Banting-friendly food lists, helps readers understand food labels, and teaches how to 'Bant' on a budget. With solid research supported by actual case studies and before and after photographs, readers will now be able to access all the information they need about Banting in one book. R220



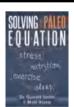
#### POSTERIOR CHAIN: THE MISSING LINK

(Kindle Edition)

By Sean Schniederjan and Dr. Mark Shirlev

This book is a collaboration between an innovative and

influential fitness author and an osteopathic physician, who has treated men and women with back pain for over 20 years. It provides a fast, easy and highly effective way for strengthening hips, back and shoulders for sport and life. The book builds on the series of back exercises authored by Schniederjan in 2013, and the subsequent update, Posterior Chain Linked 2.0, released in 2015. Now, osteopathic physician Dr. Mark Shirley, has added his tweaks to the exercises, which he developed when including them in his practice. www.amazon.com \$5.69



## SOLVING THE PALEO EQUATION: STRESS, NUTRITION, EXERCISE, SLEEP

(Kindle Edition)

#### By Garrett Smith and Matt Stone

The ultimate guide to customising your diet and

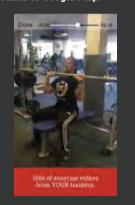
lifestyle practices to your unique physical and metabolic needs. You'll learn how to maximise your health practices and minimise your time and effort – no more driving yourself to exhaustion in hardcore fitness classes, no more strict, unsustainable, and impractical approaches to nutrition, either. This book will help you avoid the ravages of adrenal fatigue, low metabolism, dwindling sex drive, and sleep problems and will help you rehabilitate from the unhealthful "health" protocols you've pursued in the past. www.amazon.com \$9.99

## APP OF THE MONTH



WORKOUTS BY PERSONAL TRAINERS

Fit Gurus is a huge team of top trainers who share their workouts with users via the app and work with them every step of the way to deliver the perfect workout based on their goals. These real trainers push users to work hard and achieve the results they've always wanted. Free on iTunes or Google Play.



#### **FITPRO COURSE DATES**

5 Mar

4 Mar Exercise is Medicine 1 5 Mar **Group Exercise** 

Instructor

Advanced boxing (Fight fit)

5,6 Mar Exercise and

Pregnancy

18 Mar Exercise is

Medicine 2

19 Mar Boxina level 3 30 Mar Personal Fitness

Trainer

1 Apr Stretching SWS 2 Apr Running analysis

and corrective

exercises

8 Apr Exercise is

medicine 3

15 Apr Nutrition 16,17 Apr Olympic

weightlifting

#### CAPE TOWN

5,6 Mar Bootcamp 11 Mar Exercise is

medicine 1 Personal Fitness 31 Mar

Trainer

1 Apr Exercise is

Medicine 2

Sport injuries 9,10 Apr

Visit www.fitpro.co.za for more info or email fitnesspro@fitpro.co.za for bookings.





#### Upcoming Courses EARN CPD POINTS

- COMBINED (CPT)
  Fighting FITT Instructor (JHB, CPT)
  Pro & Post Natal Exercise (JHB, CPT)

- Group Fitness Instructor (JHB, CPT)
  Aqua Aerobics Instructor (JHB, CPT)
  April Aerobics Instructor (JHB, CPT)
  Sports Considering Instructor (JHB, CPT)
  Sports Considering with Speed Agulty &
  Guidannes (JHB, CPT, DBN)
  Yoge Musicles & Motion (JHB)
  CPR (JHB)

- UNE Studio Dycle Instructor UHE, CPT, DBN) Sports Message (JHB, CPT) ILS LIFE Conech for UMB ILS LIFE Conech for Milled (JHB) ILS LIFE Conech for Milled (JHB)





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## **EVENTS CALENDAR**



#### AFRICANX TRAIL RUN PRESENTED BY ASICS

South Africa's premier three-day stage trail run will return to the grounds of the picturesque Houw Hoek Inn in March 2016. Teams of two (male/female/mixed) will battle it out on a route varying in distance between 22-34km each day through the picturesque Overberg region of the Western Cape.

Entries are limited to 400 teams.

Date: 11–13 March 2016 Venue: Festival Village, Houw Hoek Inn,

Western Cape

rottow Asics kunning South Africa of Stillwater Trail Running on Facebook or @Asics\_ZA or Gruntheafricanx on Twitter. To enter or for more info visit www.

stillwatersports.com or email entries@stillwatersports.com.

#### **WARRIOR RACE SERIES**

The extremely popular Warrior Race events, South Africa's biggest obstacle race series, begins its Gauteng leg with races in March and April. Events include the Warrior Bratz race (500m, 8 obstacles), Warrior Rookie (5km, 15 obstacles), Warrior Commando (10km, 22 obstacles) and Warrior Black-ops (18-20km, 30 obstacles)

#### Warrior Race #2

Dates: 12 & 13 March 2016

Venue: Emerald Casino, Vanderbijlpark

#### Warrior Race #3

Dates: 23 & 24 April 2016

Venue: Hobby Park, Krugersdorp
Visit www.warrior.co.za for more info



#### THE IMPI CHALLENGE

This event combines trail running with an adventure-style obstacle course, catering to all athletic abilities. Participants can enter individually or as part of a team (2–10 people). Awards for the best dressed are also on offer.

#### Impi Challenge Gauteng #1

Date: 25 March 2016

Venue: King's Kloof, Laurentia Farm,

Krugersdorp

Impi Challenge Cape Town #1

Date: 9 & 10 April 2016

Venue: Lievland Wine Estate, Stellenbosch
Enter by visiting entries.impichallenge.co.za.



#### DISCOVERY WORLD TRIATHLON CAPE TOWN

The third Discovery World Triathlon Cape Town and the inaugural Discovery Duathlon Cape Town will take place in April 2016, in and around Cape Town's iconic V&A Waterfront and Green Point precincts. The Discovery World Triathlon Cape Town forms part of the ITU World Triathlon Series.

Date: 23 & 24 April 2016

**Venue:** V&A Waterfront and Green Point Athletics Track, Cape Town

Triathlon athletes can enter at capetown. triathlon.org. Duathlon athletes can enter at www.discoveryduathlon.com.



#### THE GRAVEL & GRAPE

Now in its second year, the three-day Gravel & Grape MTB Challenge promises to be a weekend special for families and thrill-seekers alike. This team event rolls through the Breedekloof Wine Valley, the Western Province's adventure playground.

Date: 6-8 May 2016

Venue: ATKV Goudini Spa

Distances: Day 1 - 77km, day 2 - 68km, day 3 - 62km

**Gravel & Grape Lite** 

Date: 7-8 May 2016

Distances: Day 1 - 35km, day 2 - 25km

For more info or to enter visit gravelandgrape.com or email info@gravelandgrape.com.



#### THE GRIND

The latest obstacle course racing series hits Cape Town in April. The event's main attraction is a water-filled quarry, with at least eight exciting obstacles in and around the feature.

Date: 16 & 17 April 2016

**Venue:** Hillcrest Wine and Olive farm,

Durbanville

**Events:** 5km with 18-20 obstacles or 8km with 25-30 obstacles.

For more info 'like' The Grind Race on Facebook, or follow @The Grind Race on Twitter and Instagram.

## \_ASK THE .

>> Question was answered by Mario Van Biljon NHDip: Microbiology

### **PLATEAU-BUSTING PLAN**

I'm 21 years old and have been training solidly for a year and four months now. I train 5-6 days a week. My schedule consists of one day of cardio and the rest of the time is dedicated to weight training. I have been

following a good diet consisting of high carbs (basmati rice, oats) and high protein (steak or chicken breasts), and I've been using whey protein and a pre-workout. I've managed to drop body fat while gaining about 8kg of muscle and I've gained a significant amount of strength, but for the last four months I haven't gained so much as a kilogram. I feel I have reached a plateau and can't seem to gain any more weight. Is there anything you would advise? I often get told that taking steroids is the next step for me, but I don't want to go that route, Tarquin Grovers

I certainly understand your frustration. In today's quick-fix society we tend to expect everything we want 'now'. This need for instant gratification and results has driven the rise in popularity of steroids and other potentially harmful performanceenhancing substances. While resorting to these ergogenic aids can certainly assist in achieving faster results from your hard work in the gym, the fact of the matter is that there are ways and means to build the body you want without the

use of these harmful substances. What you'll find is that the guys who build the best bodies are more patient than the average person who trains in your gym, particularly those who have opted to go the chemically-assisted route to achieve their desired results. The guys who choose to do things naturally are willing to put in a tremendous amount of time and effort, and they focus their efforts on simply having one great workout at a time. Five or six days of successive great workouts equates to a great week of

training. When you string together several great weeks of training you achieve a great month; and you can be assured that month stacked upon month of great training will result in years of beneficial habits that will eventually get you the results you want.

If you want to reach your full genetic potential naturally you must look at your muscle-building endeavours as a series of longterm lifestyle choices rather than focusing on short-term goals like seeing how much weight or muscle you are able to gain from month to month.

To put things in perspective, I've been training for more than 20 years. In that time I have only gained around 30kg of muscle, which equates to around 1,5kg per year – slightly more than 100g per month on average. That is barely measurable on the scale and is significantly slower in terms of overall results than what you have

focus on creating a clear vision of what you want to look like after five more years of living a disciplined lifestyle of regular training and dedicated eating. Now, I know that it may be difficult to exercise that kind of patience for someone in their early twenties, like yourself, but just imagine how good you'll be in the years to come if you create the same degree of mental fortitude as that of the guys who have crafted the greatest physiques on earth without the use of drugs!

Believe me when I tell you that you have not yet scratched the surface in your quest to gain muscle. There is still so much for you to try and learn from. How many different training methods or strategies do you think there are that can help you bust through your current plateau and add quality muscle? When you consider the amount of exercises you could possibly perform, the manner in which you can change your set and rep structure, the different weight combinations you could use, and the many different types of machines available to you, you quickly realise that there are many options available for you to still try. There are literally thousands of different combinations you could still try in your quest for additional muscle gains.

So, to answer your question more directly, change your training - your workout efficiency, the intensity, volume and the structure of your programme, and combine that with consistency in terms of your diet and supplement plans. This will ensure you continue to make gains over the long term.

Lastly, role model yourself on the world's best physiques and keep searching for the right answers for you. There is no one-size-fitsall approach to training. When you find the right recipe, hang in there, keep on plugging away, stay positive and keep believing the results will follow.

averaged over the last 16 months. I would therefore suggest that rather than becoming despondent you



Do you have any questions? Email info@fitnesshis.co.za and one of our experts will answer it for you.



#### A SUUNTO AMBIT3 VERTICAL

The Suunto Ambit3 Vertical multisport GPS watch provides a solution for sports where planning and tracking elevation is essential to training and competing such as running, cycling and skiing. The Ambit3 Vertical combines a new lightweight construction with built-in barometric pressure, route altitude profile, vibration alerts and versatile multisport functions for running, cycling and swimming, with up to 100 hours of battery life. It is also water resistant to 100m. It tracks speed and distance in addition to effort and recovery when used together with the Suunto Smart Sensor heart rate belt. Users can follow the altitude profile of their route directly from the watch with real-time ascent gain and remaining ascent displayed. A summary provides daily totals over seven days, 30 days and a full year. For more info visit

www.suunto.com/ambit3vertical.

#### B GARMIN VIVOSMART HR

The Garmin vivosmart HR is a touchscreen-enabled activity tracker that offers Garmin's wrist-based heart rate technology called Elevate

wrist heart rate. The vivosmart HR's large display remains switched on and is easily read in sunlight. It displays a comprehensive range of smart notifications and users can also receive text, call, email, calendar and social media alerts, control music, and more when paired with a compatible smartphone. In addition to heart rate monitoring, the band tracks steps, calories burnt, approximate distance travelled, counts floors climbed, and measures activity intensity. With up to five days of battery life and a 5 ATM (50m) water rating, users rarely have to remove the device. Wearers also get reminders when they have been sitting too long. Available in black, purple and grey at the suggested retail price of R3899.

#### © BODY GLOVE SPORTS EARPHONES

Body Glove's new range of wireless sports earphones, imported by Gammatek, are sweat proof, easy to pair with any device and are comfortable to wear. The new Body Glove range includes the Body Glove BSport Plus Bluetooth Sports Earphones, the Body Glove BSport Bluetooth Sports Earphones, the Body Glove B-Active Plus Wireless Sports Earbuds, and

Body Glove B-Active Wireless
Earbuds. Available at Incredible
Connection, Musica, Sportsman's
Warehouse, Takealot.com, selected
Vodacom and MTN stores, and
other leading retailers for between
R449 and R699.

#### ☐ GARMIN FORERUNNER RANGE EXPANDS

The Garmin Forerunner range has received four new updates with the launch of the 25, 230, 235 and 630. The **Forerunner 25** is a compact and easy-to-use GPS running watch with connected features. It tracks essential data including distance, pace, heart rate and calories, along with basic everyday activity tracking. The Forerunner 25 HRM bundle is available in black/red, black/blue in a large face, and black/purple and white/pink in a small face at a **suggested retail price of R3099.** 

The **Forerunner 230** tracks distance, pace, and time, and pairs with a chest strap to displays heart rate and zones on an easy-to-read, colourful graphic interface. Users can also get a V02 max estimate, predict race times and calculate recovery time. The Premium HRM bundle is available in black/white,

purple/white and yellow/black at a **suggested retail price of R4499.**In addition to all the standard

In addition to all the standard functionality of the Forerunner 230, the Forerunner 235 is the first product to feature Garmin's wrist-based tracking technology called 'Elevate wrist heart rate', which displays heart rate and zones on an easy-to-read, colourful graphic interface so runners can train more effectively. Available in black/gray, black/marsala and frost blue/black at a suggested retail price of R5099.

The Forerunner 630 is a touchscreen running watch with more running dynamics than its predecessor, the 620. These include various physiological measurements such as stride length, ground contact time balance, lactate threshold, stress score, vertical ratio - the costbenefit ratio of vertical oscillation to stride length that serves as one indictor of a runner's efficiency, and performance condition - a real-time fitness-level measurement relative to a runner's average baseline which indicates performance readiness for the day's workout or race. The performer bundle with HRM-Run is available in black/ white and midnight blue at a

#### 2016 FITNESS TECH TRENDS FROM CES

At the start of every year, the world's leading technology companies descend on Las Vegas in the U.S. to showcase the trends and products at the world's biggest consumer electronics show. CES. This year's event was once again dominated by wearable tech, with health and fitness still the main driver of innovation within this space. There was a definite theme this year, with a shift from wrist-based devices to connected smart clothing like shoes and pants, including everyday fashion and accessories - a trend being dubbed "fashtech" or "cloud couture". While smart clothing will be more pervasive in 2016 and beyond, there is no doubt that the adoption of wearable tech is still being driven by fitness enthusiasts. Here are the biggest fitness technology highlights from CES 2016.



#### A FITBIT BLAZE

The Fitbit Blaze offers all the activity tracking functionality of other devices in the range such as steps, calories and sleep tracking, and also monitors heart rate using PurePulse heart rate sensor technology. Basic smartwatch-like functionality allows users to manage music, calendar, texts and caller ID from compatible smartphones via the 1.66inch, 240 x 180, colour LCD touchscreen, which is covered in Gorilla Glass 3. Unlike the Surge, GPS tracking functionality is only possible through a compatible smartphone. A vibration motor offers silent alarm functionality and incoming notifications.

Available with either a black, blue or plum strap in small, medium or large sizes.

#### B ALTRA IQ SMART SHOES

Altra, manufacturers of zero drop maximalist shoes, announced the launch of the Altra IQ smart shoe powered by iFit. These shoes deliver feedback on running metrics and habits that could improve performance. A collection of sensors embedded along the midsole in each shoe tracks foot strike zone, running cadence, distance, pace, time, and splits. These smart shoes connect to a companion app via Bluetooth that then analyses the data and provides feedback and suggestions to improve running form and efficiency. Feedback is also available in real time, allowing runners to make adjustments during a session.

#### UNDER ARMOUR CONNECTED **FITNESS RANGE**

Under Armour released the SpeedForm Gemini 2 RE smart shoe, which accumulates and stores data from a workout, including time, date, duration, distance, and splits, without hindering the athlete's run with a tracking device, and the HealthBox that includes a smart scale, a heart-rate tracking fitness band, and a heart-rate chest strap. The HealthBox was created in collaboration with Taiwan-based mobile phone manufacturer HTC. The Under Armour Band is a touchscreen device that tracks metrics such as heart rate, steps, sleep, and calories burnt. The band also allows you to change music, and receive text messages and call notifications. The Under Armour WiFi-enabled smart scale measures weight and body composition, allowing users to track progress toward set goals. The Under Armour Heart Rate chest strap tracks heart rate, heart rate zone and workout intensity during workouts. The devices connect to a purpose-built app called Record where data is stored and analysed.

#### SENSORIA FITNESS SMART SOCKS

Sensoria smart socks contain comfortable, textile pressure sensors that inform wearers if they are striking with the heel or the ball of their foot, in real time. A foot heat map offers visual feedback via the Sensoria Fitness mobile app.



knees should point in the same direction as your feet throughout the movement. Keep the bar close to your body throughout the move.

#### 3. THE BENCH PRESS

If the squat is the ultimate measure of strength, then the bench press must surely be the ultimate measure of masculinity. There is something primal about the bench press, and every guy wants to sport a thick chest with dense pectoral muscles, and no exercise achieves that better than the bench press.

HOW TO DO IT: Lie on your back, under the bar, on a bench. Grasp the bar using a wide grip. Un-rack the bar and position it over your upper chest. Lower the weight to your mid-chest in a controlled manner. Press the bar back up until your arms are extended.

#### 4. THE BENT-OVER ROW

This compound move has stood the test of time because it works - it is simple and effective.

This, like most barbell exercises, is a mass builder.

HOW TO DO IT: Keep your torso horizontal for strict execution. Pay close attention to your lower back – don't round it during the movement. Your knees should be bent and your lower back straight, especially if hamstring flexibility is an issue. Row the bar up to just below your chest.

#### 5. THE MILITARY SHOULDER PRESS

At least one overhead press is essential to develop your upper back and shoulders. The seated press focuses on the major shoulder muscles, namely the deltoids, and the upper back region, including the trapezius muscles and the rotator cuffs.

HOW TO DO IT: Sit on a bench. Grasp the the racked bar with a slightly wider than shoulder-width overhand grip. Un-rack the bar and position it near your upper chest. Press the bar up until your arms are extended overhead.

THESE COMPOUND LIFTS TARGET MULTIPLE MUSCLE GROUPS due to their multi-joint nature, and engage more stabiliser muscles than any other exercise, which delivers quicker gains in strength, size and improved movement patterns – all essential elements for someone looking to build a better body. These exercises also have the ability to stimulate the release of important anabolic hormones such as testosterone, human growth hormone and insulin-like growth factor, more so than any other type of exercise.

core muscles, and it allows lifters to move large

loads - an essential element needed for growth.

The squat also prompts a strong neuroendocrine

response that releases hormones essential to

HOW TO DO IT: Bend your knees forward while

allowing your hips to bend back and downwards

behind you. Keep your back straight and knees

pointed in the same direction as your feet. Descend

deep squat position extend your knees and hips until

until your knees and hips are fully bent. From this

your legs are straight. Return and repeat for the

This compound mass maker is unrivaled in

well as the hormonal response it elicits.

terms of the number of muscles it works, as

HOW TO DO IT: Throughout the lift keep your hips

low, your shoulders high, chest up, and your arms

and back straight. Never round your back. Your

growth, strength and metabolism.

required number of reps.

2. THE DEADLIFT

HOME GYM SERIES BROUGHT TO YOU BY EVERLAST & GAME



## HIIT THE ZONE @ HOME WITH EVERLAST



#### **SAMPLE WORKOUT**

- **WARM UP**
- 5 minutes of moderate tempo on the spinning bike
- ► INTERVAL 1 (Aerobic) 90-second sprint on the spinning bike
- ► INTERVAL 2 (Anaerobic)
  Barbell squats for 30 seconds
- ► INTERVAL 3 (Aerobic) 2-minute tempo climb on the spinning bike

INTERVAL 4 (Anaerobic)
Dumbbell presses and flye
superset for 15 reps of each

- ► INTERVAL 5 (Aerobic) 2-minute interval – 15 second hard, 15 second recover
- ► INTERVAL 6 (Anaerobic)
  Alternating step ups on bench for 45 seconds.
- COOL DOWN
  2 minutes of moderate tempo on the spinning bike

## BLAST FAT & BUILD MUSCLE WITH HIIT & HIWT EXERCISE PROGRAMMES

The best way to burn fat and keep the weight off is to burn as many calories as possible during your workout. The best way to achieve this is to use a combination of aerobic-type High Intensity Interval Training (HIIT) combined with high intensity weight training (HIWT).

Switching between intervals of aerobic HIIT and anaerobic HIWT ensures you can work out at higher intensities for prolonged periods of time which burns a greater number of calories. It is also a great way to boost your general fitness levels, while still getting the muscle building and shaping benefits of resistance training.

#### **AEROBIC INTERVALS:**

Use short duration, high intensity cardio intervals that incorporate varying degrees of medium to high intensity 'bursts' between weight-based intervals session. This ensures you work through a wide range of heart rate zones to burn more calories. Aim for intervals of between 60-90 seconds. The most effective popular forms of cardio for HIIT include running, skipping or cycling on a spinning bike.

#### **ANAEROBIC INTERVALS:**

Include a HIWT between cardio HIIT intervals. Select exercises that target the biggest muscle groups such as squats, deadlifts, or dumbbell presses, or combination moves that hit multiple muscles such as a lumge with curl, a step up with bicep curl or a burpee. This will ensure that your HIWT intervals create the greatest metabolic demands to blast more calories while also adding the most muscle possible with every rep.

#### **H.I.I.T. GUIDELINES:**

- Warm up and cool down properly.
- Use major muscle groups when doing HIIT.
- Train for 15 to 20 minutes.
- Slowly progress by increasing multiple variables (speed, duration or difficulty level).
- Train with accuracy by using a heart rate monitor
- Do not do HIIT on consecutive days (take 24 to 48 hours to recover).
- Only engage in HIIT if you already have a suitable level of conditioning and fitness.
- Eat properly to recover fully.
- Do not engage in HIIT if you have any injuries. Check with your medical professional before starting any similar programme.

### EVERLAST PELOTON SPINNING BIKE

The weighted flywheel of a spinning bike simulates the effects of inertia and momentum when riding a real bicycle. This makes it more effective than a traditional stationary bike. The special handlebar design allows a rider to adopt various positions for added variety.



#### EVERLAST POWER RACK

Heavy duty rack that allows you to complete all the basic compound lifts in relative safety at home. Adjustable bar holders and safety spotters allow you to perform squats and standing presses without a bench. Chin bar and suspension trainer attachments give you even more exercise options.



#### EVERLAST HARDCORE RENCH

Heavy duty adjustable bench, tough enough to handle heavy workouts. Can be used as a flat, decline, incline or upright position. Use with a power rack or squat rack to perform barbell bench presses or shoulder presses.



#### **QUICK FACTS:**

Height: 1.51m

Contest weight: 41kg

Off-season weight: 44-45kg

Hair: Dark Brown Eyes: Hazel

Birthplace: Durban

Birthdate: 13 January 1985

Lives: Hillcrest, KwaZulu-Natal

Mentor: IFBB Pro Andrew Hudson

Occupation: Online nutrition and

fitness consultant

**Contest History:** 

• 2015 IFBB Ironman Novice: 1st in Fitness Bikini under 1.63m

• 2015 IFBB East Coast Classic: 2nd in Fitness Bikini under 1.63m

• 2015 IFBB KZN Provincials: Top 8

• Received a personal invitation to the Arnold

Classic South Africa in May 2016

How would you best describe yourself?

Honest, dedicated and driven. I like to take on new challenges that will force me to step

out of my comfort zone.

What are your goals in life? I always want to see how far I can push myself. I like to take risks and challenge myself to do things I normally wouldn't.

Who sparked your interest in fitness? My friend, Louise Hughes who had just competed in a fitness competition.

What was your first competition? The 2014 IFBB East Coast Classic. That's when the fitness bug bit me and I haven't looked back!

What does your typical training split consist of?

Mon: Legs

Tue: Chest and shoulders

Wed: Back

Thu: Arms

Fri: Legs

Sat: A total-body workout comprising barbell complexes

Sun: Rest

What type of cardio do you do? I do HIIT on the stepper and the treadmill.



## SIREEMAPLE

>> By Werner Beukes, Deputy Editor

>> Photography by
Slade - Pure Studio





What are your favourite body parts to train and why? Legs and glutes. I love the burn. You are able to burn a lot of calories when you train larger muscles like your legs and glutes.

What exercises are best to target these areas? Leg press, because it's always a challenge, and hip thrusters as I absolutely love the burn.

How obsessive do you get about your diet? I weigh all my food in the lead up to a competition, but I also have that once-a-week

What's your favourite indulgence? It would normally be pizza but during prep I like to have a burger and chips or sushi.

What is your current supplement stack? What is the rationale behind using these products? I use BCAAs to reduce muscle breakdown and to aid muscle recovery, CLA because it is a body toner, and whey protein to help build, repair and maintain muscle mass.

When you're not busting your butt in the gym what do you do to relax? I enjoy spending time on the beach, shopping and socialising with friends and family.

What do you love most about the local fitness industry? All the love and support everyone gives to one another in the industry and the friendships that are made.

What are the items that are always in your gym bag? My iPod, water bottle with BCAAs, and my gym towel.

What do you wear if you want to feel sexy? I'm a jeans and top kind of girl, so that usually does it for me.

Are you adventurous? I am always up for a challenge! I've already been abseiling and on a zip-line, otherwise known as the aerial rope or death slide!

What motto do you live by? Everything always happens for a reason.

■ Drop-dead gorgeous Desiree Maple of KwaZulu-Natal turns heads wherever she goes. With her athleticism, dedication and passion, the 31-year-old, who loves new challenges and stepping out of her comfort zone, is definitely going places in the fitness industry. We caught up with Desiree ahead of the 2016 competitive season to find out what makes this feisty brunette tick.

- **(1)** desiree.barclaymaple 1 adesireemaple
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## A TRIBUTE TO THE GREAT GREG PLITT, A HERO & A FRIEND

Every now and again, something wonderful comes along to convince me that journalism is the best career choice I could possibly have ever made. One of those convincing moments occurred when I interviewed the extraordinarily-gifted Greg Plitt, back in 2009.

>> By Rod Labbe >> Images by Jason Ellis

## "WILL YOU BE REMED?"

George Gregory Plitt, Jr. - November 3, 1977 – January 17, 2015

'd been profiling athletes for Iron Man magazine, and Greg's website popped up during one of my infrequent internet searches.

Perusing through, I saw contact info listed, including his e-mail

Perusing through, I saw contact info listed, including his e-mail address. This presented interesting possibilities! If I dropped him an inquiry and attached an impressive array of published clips, what were the chances he'd sit for an interview?

Close to nil, of course. Even in 2009, Greg Plitt, a West Point graduate and ex-army Ranger, ruled as the world's most famous male fitness model. Eh. Nothing ventured, nothing gained, I mused... and being a freelancer is all about taking risks, right?

And then, boom! Within a day, Greg was buzzing my cell. "Hell, yeah, Rod!" he said, in his boisterous way, "I love your work. Let's do this!"

That was the start of what would ultimately become my greatest tribute to the legend that was and still is Greq Plitt: A true hero and a friend.

## THE RISE OF A LEGEND Grea didn't set out to be

an example for others to follow, but life and destiny had other plans. Discovered by happenstance and plucked from obscurity, Greg quickly established himself as the world's top male fitness model. What did he have that innumerable other professional and amateurs lacked? Could it be the perfect storm: a wild blending of good looks, personality, muscle mass and a magnificently ripped physique, unlike none other, before or since? Yes, I think perhaps it was. And then some.

I first interviewed Greg in 2009, over a period of weeks. Those conversations were free-wheeling and dramatically chaotic, but when published, page cuts and editorial whims squeezed the life's blood out of it. As Greg's career ascended into the stratosphere, we'd planned on getting together to restore it, but life, then death, intervened.

#### A RUDE AWAKENING

On January 18, 2015, I woke, checked my Facebook newsfeed page and sat there, stunned. At the top, a headline blared: "World famous model, Greg Plitt, dies in bizarre train mishap."

Greg, killed? How does one process such completely shocking information? The answer is stark: it simply can't be done. News of his passing sent my personal universe spinning. Truly, I don't think I'll ever quite come to terms with it. To die so young, at 37? Unfair and tragic. I comfort myself in knowing that--as a warrior--Greg resolutely eschewed mediocrity and always had his eyes on the prize.

Months after his untimely passing, I reread the interview we'd put together. What I found was a young man at the brink of greatness, someone spreading his creative wings in a brandnew environment. How sad that this never saw the light of day, as originally conceived. Until now, that is.

In a tribute to arguably one of the greatest fitness models of our time, *fitness* His Edition is giving Greg his well-deserved due by publishing my lost Greg Plitt tapes. Here's how a boy from the northeastern U.S. state of Maine became friends with a boy from Maryland and created a magical little something called art.

#### GREG PLITT: HERO & FRIEND

## My word, Greg, how can you possibly be so jacked? It's damned near insane!

This comes from athletic activity my entire life. The benefits of exercise are rather obvious, wouldn't you agree?

#### Yeah, they are. I could scrub a load of laundry on those diced-up abs.

Small load or heavy-duty? Haha! Good abs sell a physique. When your shirt's off, people automatically zoom in on the mid-section. Any fat you're carrying is gonna show there. Try pinching an inch on this cat! Can't be done.

#### In your early pix, you were one big mofo. Have you dropped weight?

About 15 pounds (7kg), though I've been steadily gaining. Fitness models need to be lean, not huge. If you're too big, it comes across as intimidating.

Do you feel your broad appeal lies in your all-American physique,



get there. And when you've reached your goal, how sweet it is!

## Speaking of sweet, I was at the newsstand this morning and counted half a dozen mags with you as their cover model.

I can't complain. I've had decent luck with covers, but I'm no supermodel. Just a regular guy who saw a window of opportunity and jumped through it. Right place at the right time, so to speak.

## Even with the media overload, you've remained blissfully unaffected.

It's not in me to boast, but my Muscle & Fitness cover, which I landed through sheer luck after a chance encounter with a talent agent at a convention, was a mind blower. My feet were off the floor. A friend texted me, "Greg, you're on this month's Muscle & Fitness!" I drove like crazy to Barnes and Noble. At the counter, I'm trying to be nonchalant, keeping the magazine face down and all. The clerk flips it over, looks at me, looks at the cover, and we both laughed. And here's the best part: he pulls cash from his own wallet and pays for it!

## There have been so many cover shots since then, have you become jaded?

If I ever reach that point, I might as well pack it in. Covers are a blast, photo shoots are fun. And fun's the bottom line

#### If you and your bros hadn't stopped at Marriott where the convention was being held, where would Greg Plitt be today?

Deployed, more than likely, given the shaky situation in Iraq. I certainly couldn't have foreseen modelling and launching an acting career in LA.

#### And what if the phone stops ringing?

That's a very real possibility. It's like when I wrestled. Before every meet, there was fear inside, an apprehension, but I resisted questioning my own abilities. Question those, and you're defeated from the get-go. I always maintain a winner's philosophy. In slow times, I plan and prepare,

improve my craft and stay photoready. Don't drag yourself down with second-guessing and obsessing. Look sharp, be sharp. Take the bull by the horns, man!

#### For you, lifting's a lifetime thing, like eating and sleeping?

And breathing, don't forget that! I'll do this all my life. Just part of the plan. No matter what kind of sucky day I've had, the gym melts away tension like frost on a warm window pane. It's where I control my destiny, outcome and speed of progress. After any bad day, I find solace in a good workout. Also, seeing--but most of all, feeling--results is an astonishing emotional buzz. Exercise releases endorphins, and the natural high of my mind and body being in sync makes me feel invincible.

#### Motivation's an essential building block of any long-term fitness regimen. Finding and keeping it, ah, there's the rub!

Bona fide motivation is internal. Music, training partners, and the right atmosphere are excellent training tools, but belief in yourself is second to none.

#### Lore has it you've been weighttraining since your pre-teen years. Is that true?

Yep! I trained to make myself stronger and faster and spent mucho time in the gym.

#### And your goals were...?

Sports, sports, and more sports! I wanted to excel, which meant full steam ahead. Being younger, I learned from observing. People took me under their wings and taught me the proper form, what worked, and what didn't.

#### What was your favourite sport back then?

Wrestling, bar none! In high school, I was a two-time All-American, second in the nation in my senior year, and a multiple state champ. Golf and American football were also personal passions. I still toss the pigskin, and nothing will ever drag me off the driving range. I have a 4 handicap in golf and I also love playing baseball.



"Don't drag yourself down with secondguessing and obsessing. LOOK SHARP, BE SHARP. TAKE THE BULL BY THE HORNS, MAN!"





#### In a roundabout way, wrestling led to West Point, How'd that happen?

At the high school wrestling nationals, a scout from West Point said I had potential and could likely win a congressional appointment to the Point.

#### You also opted to forego the traditional collegiate route.

My original intent was to wrestle on the college circuit. I'd received several wrestling scholarships, but everything changed for me when my sister Ginnie got into the US Navy Military Academy. She grew physically, emotionally, and spiritually. I wanted to see how I'd respond under similar conditions, so decided on West Point.

#### You also served five years in the armed forces following graduation?

A five-year commitment is mandatory. I graduated Second Lieutenant in 2000 and also earned the rank of Captain, Airborne Ranger, the Army's equivalent of a Navy Seal. I spent seventy gruelling days training. When I started, I weighed 215 pounds (97.5kg), and I left the programme a lean, shredded 163 (74kg).

#### Don't you also have something like 800 jumps under your belt?

It's 850 to be precise. I joined the skydiving team at West Point and loved it. Its pool of applicants reaches 300-400, and only ten are chosen. I was so fortunate to break in as a freshman. They're an elite aroup.

#### And now you're America's #1 male physique model. That defines elite. How's it feel, boss?

Satisfying... and overwhelming! Being appreciated is an amazing thing.

#### Is nailing the cover thing a science?

Each photo shoot presents another hill to climb. You're dealing with different photographers, so moods vary. But I go into them with one aim in mind: to give them all they need in a model and then some.

#### We've seen your mug on just about every fitness and bodybuilding mag, but there's been very little written about Greg Plitt, the man.

I don't chase publicity; my work speaks for itself. When you let too many people into the circle, it leads to problems.

#### And this interview doesn't count as publicity?

Yeah, but I like your approach. It's easy-going, friendly. We've got a good thing goin'. Part of that is trust. Without trust, any project can rapidly go into the shitter.

#### How much control do you have as a model? For instance, do you offer suggestions to the photographer?

Photo sessions are collaborative efforts. Good rapport with photographers is a must. When I started, it was more or less a lark, so I went into it with a sense of fun.

#### But it's still work.

Hell veah! Hard work! Luckilv. there's no freaking out or crash dieting involved; I just kick it up a notch. That means getting enough sleep the night before and showing up healthy, aware, and relaxed.

#### Did you move to California for more modelling prospects?

Modelling and acting. I had a non-speaking part in The Good Shepherd (Universal 2006), directed by Robert De Niro, and a small part in Terminator: Salvation (WB 2009),

"Talking about what you want to do is easy. People tell me their goals all the time. What impresses me is those who go and put their plans into action!" This was the advice Greg gave me when I had the privilege of meeting the great man. His advice will live on in my mind. R.I.P Greg Plitt. - Jay Zuccato, Fitness His cover model with Christian Bale. I've also done talk shows, a reality show and had a running gig on Days of our Lives, as a cop named Henderson. No one can fault the exposure of a soap.

#### Didn't you crash an audition in NYC?

I did! Hey, you're sharp, man. There was an audition I'd heard about. just the time and address. Arrived. filled out of a form, made up some agency's name, jotted down my number and then auditioned. It led to The Good Shepherd! Fudging facts here and there isn't always a bad thing. You do what you gotta do!

#### Your physique was used as the model for Dr. Manhattan, an important character from Watchmen (WB 2009), I'd read the comic series; that they could get anyone human to replicate Manhattan's incredible build

I'd no idea about the comic book or the character. My agent said it was a 'body part' audition. Sounded obscene! Zack Snyder, the director, explained what he wanted: A well-developed, non-bodybuilder body that moved like a real person. Essentially, they put the actor's head on my physique, and it worked.

#### Your old Bowflex commercial ran 24/7, it seemed. Do you really endorse that medieval-looking contraption?

Sure! For people who can't make the gym on a regular basis, Bowflex is an effective replacement.

#### Since your face is a commodity. are you ever recognised when just chillin'?

Depends on where I am. Sometimes I get odd looks from strangers, like they're thinking, hmm, do I know that guy? I've been stopped before and asked for my autograph. It's wild being treated like a celebrity. A little mind-boggling, honestly.

#### Where do you want modelling and acting to spin you?

Who knows? For a while, I was flying blind! This new-found career has virtually overwhelmed my life!

Yet, on the flip side, there's an undeniable attractiveness in obscurity.

Well, for one, it gives you

the freedom to move about independently and stay under the radar

#### Is freedom something you miss?

Not at this stage of the game, I don't. Visibility is everything, my man! I'm taking classes, studying and utilising whatever contacts I can make. Optimism, bro, unbridled, insane optimism! I've kept a positive attitude since childhood, and it'll probably last the rest of my life.

You've got such an energetic, upbeat personality. Doesn't anything ever shake your cage?

Rarely. I navigate uncharted waters with abandon, eager to find what waits beyond the horizon. Part of that is my competitive nature: I refuse to lose or give up hope. You've heard of The Secret, right? The power of positive thinking? Invaluable.

#### A gregarious personality naturally attracts people. Do vou have a wide circle of friends?

I make new and good friendships wherever I go, but none of them compare to those forged in an earlier time, when I was at West Point. A military setting creates solid bonds. For one, you share so much, you're testing yourselves together, and you emerge from the baptism of fire a different,

Buddy, we've spent two hours shooting the shit and finishing this up, can you believe it?

Two hours? No way. This whizzed by! Interviews can be sketchy, but you kept the words flowin', Rod. Rock and roll!

#### As a parting gift, leave us with some heavy Plitt philosophy.

Oh. that's so fu@#in' easy! Just do it! ■

"I navigate uncharted waters with abandon, eager to find what waits beyond the horizon. Part of that is my competitive nature; I REFUSE TO LOSE OR GIVE UP HOPE. You've heard of The Secret, right? The power of positive thinking? Invaluable."



\*INTERVIEW CONDUCTED LATE 2009



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OR AS LONG AS MAN AND WOMAN HAVE COHABITED, THE CONTENTIOUS DEBATE ABOUT THE EXISTENCE AND VALIDITY OF MAN FLU HAS RAGED ON.

A mopey man dragging himself around the house when the flu hits is enough to make the most compassionate and empathetic woman roll her eyes. However, new science now confirms what men around the world have known since the dawn of mankind – man flu is real!

Researchers at Johns Hopkins Bloomberg School of Public Health and School of Medicine published a study in the American Journal of Physiology - Lung Cellular and Molecular Physiology, in December 2015, that suggests the female sex hormone oestrogen could be the key factor in accounting for the difference in the severity of flu symptoms experienced by men and women.

The research team collected nasal cells from male and female participants and exposed them to the influenza A virus, along with oestrogen and other oestrogenbased compounds such as drugs

used in the treatment of breast cancer. The results showed that symptoms in cells belonging to women were less severe as the viral load of those cells was significantly lower.

This antiviral effect was attributed to the fact that oestrogen reduced the replication of the flu virus in the harvested nasal cells. This protective quality is a phenomenon that has been observed in a growing number of studies conducted on the antiviral effects that oestrogen and various oestrogenic chemicals have on other viruses, including HIV, Hepatitis C, Ebola, and human cytomegalovirus.

#### THE FLU

A virus is usually spread through the air from coughing or sneezing, travelling over relatively short distances to infect those in close proximity. It can also be spread by touching contaminated surfaces and then touching your mouth or eyes.

Once it enters and infects the cell it makes copies of itself inside the host cell. This results in common symptoms such as a high fever, runny nose, sore throat, muscle pains, headache, coughing, and lethargy. These symptoms typically begin two days after exposure to the virus and generally persist for a week or less. Coughing may last for more than two weeks though.

"How much a virus has replicated determines its

"WOMEN
NATURALLY
PRODUCE MORE
OESTROGEN
THAN MEN AND
THAT HELPS
WOMEN COMBAT
THE FLU VIRUS
BETTER THAN
THEIR MALE
COUNTERPARTS."

severity," explains lead researcher Sabina Klein. "Less replication of the virus means the infected person may experience less disease." It is also less likely that the infected person will spread the disease to someone else when replication is stunted, according to Klein

The fact that women naturally produce more oestrogen than

# "STUDIES SHOWED THAT HIGH LEVELS OF TESTOSTERONE CAN WEAKEN A MAN'S IMMUNE RESPONSE TO THE FLU SHOT COMPARED TO WOMEN WHO ARE VACCINATED AGAINST THE VIRUS."

men – up to 24 times the amount – helps them combat the virus better than their male counterparts as the hormone's antiviral effects reduce the virus' ability to replicate.

It is worth noting that the study protocol showed that cells administered with oestrogenbased drugs and the hormone itself after infection proved ineffective against the virus. However, if introduced before the cells were infected between 72 and 24 hours prior to infection – they showed greater resistance against the influenza A virus. As such, oestrogen seems to only reduce the severity and duration of the infection and does nothing to reduce infection rates among women.

The immune systems of men, on the other hand, are left to grapple with the illness without the assistance of oestrogen. This generally results in infections that last longer and men often experience more severe symptoms. Further exacerbating the situation for men is the effect that high levels of the dominant male sex hormone, testosterone can have on the immune system. Previous studies, including a 2013 study conducted at Stanford University, have shown that elevated levels weaken of the immune system. More specifically, the Stanford University study showed that high levels of testosterone can weaken a man's immune response to the flu shot compared to women who are vaccinated against the virus.

## RATHER AVOID THAN CURE

with the devastating and debilitating effects of man flu, prevention is therefore better than cure. To help keep the flu at



bay, wash your hands frequently to reduce the risk of infection. Avoid contact with those who are already infected or are presenting

with symptoms.

Yearly vaccinations against influenza are also recommended by the Center for Disease Control and Prevention in the US, and the World Health Organization. The vaccine is usually effective against three or four types of influenza.

If you have been infected and lack the requisite oestrogen for a quick recovery, then you can try a few of the following remedies and treatments to try reduce the severity of the illness. A visit to your doctor should always be your first point of call. He or she will determine if the infection is viral or bacterial and could prescribe a prescription antiviral such as oseltamivir (Tamiflu) or zanamivir (Relenza) if it is viral. However, recent research has cast some doubt on the effectiveness of these products and there are potential side effects that stop many doctors from prescribing them to otherwise healthy individuals.

Without a prescribed antiviral there are a number of natural options that you can try, such as zinc, elderberry, olive leaf, green tea, garlic, echinacea, and glycyrrhizin, a compound found in the liquorice plant. A combination of over-the-counter products; a pain killer that contains ibuprofen, and a suitable expectorant can provide symptomatic relief from fever, congestion and coughing. A steam bath or humidifier can also help to open blocked airways and loosen phlegm, as does mentholated topical creams such as Vicks Vaporub. However, the best approach is lots of rest, specifically sleep.







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### PREVIOUS COVER MODEL RYAN TERRY RETURNS TO SA WITH MORE EXPERIENCE AND KNOWLEDGE TO SHAF

>> By Werner Beukes, Deputy Editor, >> Image by Mike Mullane

ritish Men's Physique IFBB pro athlete and fitness model Ryan Terry recently jetted in to the country to shoot a video commercial of the first Blue Label Lab approved preworkout product for his supplement sponsor USN.

We caught up with the popular Brit, who sports one of the most admired physiques in the world, while he was soaking up the African sun in between breaks at a gym in Pretoria where the video was filmed.

#### **LEAN MACHINE**

As one of the leading fitness figures in the United Kingdom, Ryan's primary goal is to stay as lean as possible while adding quality size to his 1.78m. 85kg chiseled frame. At the time of the interview he was prepping hard to step on stage at the Arnold Classic being held in Colombus, Ohio in March, admitting that nerves were starting to creep in the closer he got to show day.

"It takes 100% consistency with your nutrition and the way you approach your training to reach your goals. When you start believing in yourself you will make things happen no matter what. I am always spurred on by the little changes I see in my physique each and every week while I am prepping for a show. It takes time to get ripped. It does not happen overnight! Most people are too impatient to see things through," says Ryan.

The 27-year-old eats small meals spaced evenly throughout the day to keep his metabolism fired up.

Rvan loves South African steak because the quality is the best

in the world, he says. "Your steak will beat any other country in the world hands down. I even limit my calories on the days I know I am going to have a juicy steak just to allow room for more," he laughs.

He started out as a plumber before attaining his Pro Card with the International Federation of Bodybuilding and Fitness (IFBB), which he says he was able to achieve through hard work, dedication and consistency. British model and fitness trainer Rob Riches was his icon when he decided to lift weights in his teens.

"I started to lift weights when I was 15 in the hope that it would boost my lack of self-confidence. I basically became more interested in training when I noticed the changes in my body as I got more toned." Riches had the aesthetically-pleasing and quality physique

that

Ryan wanted to emulate. He slowly sculpted his physique in that mould, eventually becoming the first ever British Men's Physique IFBB pro.

Since we last featured Ryan in our May/June 2013 cover feature, he has achieved a great deal in the physique industry, the pinnacle of which for just about every athlete is reaching the Olympia in Las Vegas. He views the show as the best stage he has ever competed on and cannot wait to get back there at the end of this year with the goal of bettering his credible fourth place finish at his first outing.

Ryan trains five days a week with weights, using a combination of compound and isolation exercises to sculpt his body and improve weak parts for a more balanced physique. On his rest day he will do some form of low intensity cardio that helps him to burn fat and aid recovery. To relax he enjoys swimming and playing golf over weekends.

#### **EXPERT ADVICE**

According to Ryan, many people make common mistakes such as skipping cardio, eating poorly and not alternating heavy and light weights when they train. "They do these things

and then wonder why they fail to reach their goals. More workouts and more sets is not

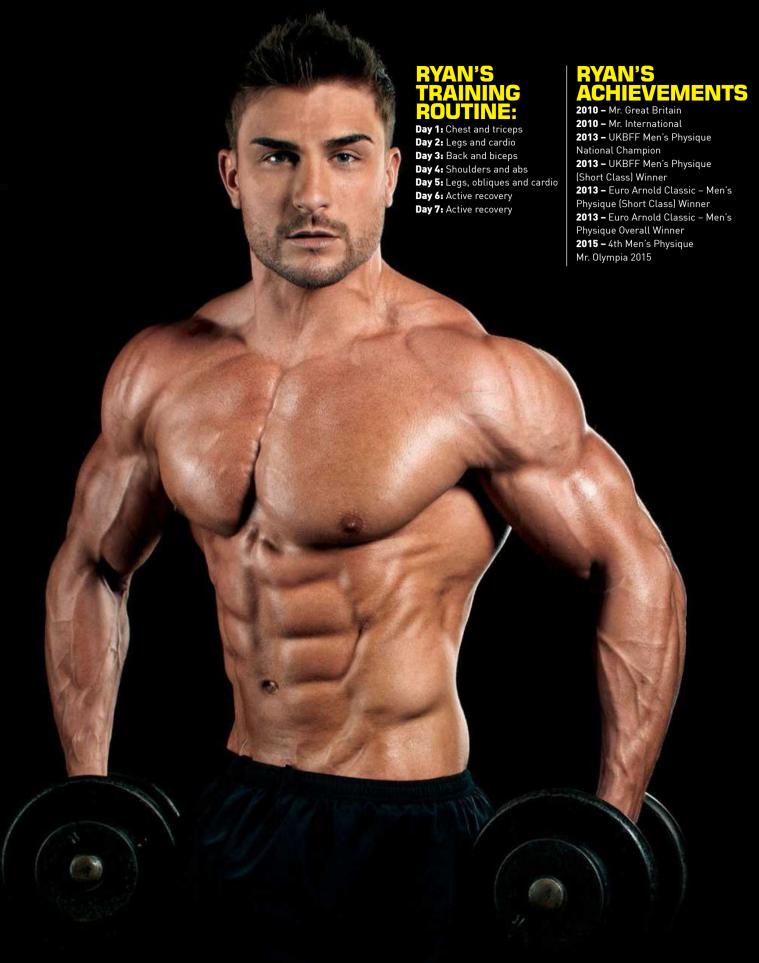
Ryan loves South African steak because the quality is the best in the world, he says.

always the answer to everything. If you train hard enough you will definitely need a day or two away from the gym. If not, you are most probably cruising and not putting the level of effort into your training needed for your body to change. Periodisation is important to create a perfect environment where you can maximise your ability to build muscle and burn fat."

Another mistake people make, according to Ryan, is resting too long between sets. "Cut your rest periods between sets and you'll see a drastic change in your physique over time. By increasing your intensity you will also get closer to your goals. Once a set is done, the clock starts ticking."

With a whole host of international commitments. Rvan also knows a thing or two about training while travelling to ensure he stays on track with his prep. "I plan my workouts and meals meticulously but I also mix it up when needed. I even do additional workouts if I know that I am going to miss out because of travelling commitments. I have found that high intensity cardio sessions do a great job in burning off the fat. I like doing cardio fasted and I shoot for approximately 30 minutes."

He consumes BCAAs before and during his workout and takes whey protein directly afterwards to prevent the breakdown of muscle. Ryan's ultimate goal is to take the Men's Physique Mr. Olympia title and add that to his other trophies, medals and accolades.  $\blacksquare$ 



Visit www.RyanTerry.co.uk to see how he gets contest ready.

OR A VARIETY OF EVERYDAY REASONS IT'S
OFTEN A FAR REACH TO STICK TO YOUR REGULAR
SPLIT BODY PART TRAINING ROUTINE WITH ITS
HEAVY, POWERFUL LIFTS, BE IT A LACK OF TIME,
A BUSY GYM, OR TRAVEL COMMITMENTS.

However, when there simply isn't the variety of equipment required or the appropriate level of weight available, you don't have to throw in the gym towel and waste the opportunity to blast some fat and get a good weight-based cardio session in.

I devised this efficient high intensity interval weight training circuit to help counter the many obstacles I encounter when travelling for business, which happens a lot in my career. However, the rationale behind training this way extends beyond mere convenience. Thanks to the numerous benefits and the results I've been able to achieve it

has become my choice of daily activity, regardless of where I may be in the world. Even when I have the access to a fully functioning gym, I like to incorporate this type of circuit into my session.

Also, by integrating a few plyometricstyle exercises I engage the most important muscle fibres for maximum muscle growth – the type IIb fast twitch muscle fibres. These muscle fibres have the greatest potential for growth which is why targeting them with explosive movements is highly beneficial for anyone looking to add muscle to their frame.



# EXPLOSIVE CONTRACTOR OF THE PROPERTY OF THE PR

# PLYOMETRIC-STYLE CIRCUIT TRAINING TO BUILD MORE MUSCLE AND BURN FAT

>> 8: Mark Robinson, accredited practising dietitian, personal trainer and fitness model (www.team360health.com.au) >> Images by Michael Neveux

#### **WARMING UP**

BEFORE I START MY 30-MINUTE FAT-BLASTING.
MUSCLE-BUILDING HIIT WEIGHT SESSIONS I WORK

MY MIND. It's essential for me to embrace each and every workout with the correct attitude! It's a choice you make to exercise; no one is forcing you to do it, but if you are going to choose to do it then you want to make sure it counts. I remind myself of the reasons why I am about to put my body through this; I list my motivations in my head. I then fast-forward through the circuit in my mind, visualising myself propelling through each exercise. During this visualisation I also perform my active warm up, which includes tensing each individual muscle group that will be activated in each exercise.



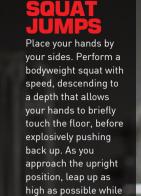


#### **JUMP LUNGES**

From a deep lunge position, extend explosively into the air while swapping your front and back legs around. Land in a lunge position with your other leg leading. Perform a lunge and then repeat the explosive movement to rotate legs.

TARGETED MUSCLES: Quads. hamstrings, glutes and calves, with a powerful cardio component.

> TARGETED MUSCLES: Calves, glutes, hamstrings and abdominals, as well as powerful cardio component.



simultaneously lifting

your arms to the sky. Land and repeat.

**EXERCISE 4:** 

TARGETED MUSCLES: Quads, glutes and cardiovascular system.

#### **EXERCISE 5:**

The sprinter's leap is a high intensity move of alternating high knees and arms. The aim is to spring off the ground achieving as much height as possible with each movement. This can be done across a designated floor space or on the spot for the duration of the interval.

NOTE: AN ALTERNATIVE IS TO SIMPLY RUN ON AN AVAILABLE TREADMILL AT AN UPHILL GRADIENT AT YOUR OWN PACE. THIS WILL STILL TONE YOUR CORE AND RAISE YOUR HEART RATE.









# TRICEP CABLE PUSHDOWNS

With your elbows at your sides, press the bar or rope attachment downwards until your arms are fully extended. Pause for a second or two in the fully extended position for an intense burn through your tricep muscles. Return the bar or rope slowly to the starting position without swinging your elbows forward.

# MAKE SURE TO FOLLOW PROPER FORM AND TECHNIQUE WHEN YOU DO EXPLOSIVE MOVEMENTS.

ABOUT THE AUTHOR Born 1987 in Cape Town, Mark now lives and works in Australia as an accredited practising dietitian, personal trainer and fitness model. He entered his first natural bodybuilding competition in 2010 where he placed third in the under 80kg men's bodybuilding division, a result he repeated two weeks later at a state show. In 2013 he stepped back on stage in the WBFF's Muscle Model category, where he placed second and qualified for the World Championships held in Las Vegas. Standing on the world stage against the best from around the globe, Mark won his line-up and was crowned Overall Fitness Model Champion. He now co-owns a gym and natural supplement business called 360Health. He holds three degrees, including a Masters in Nutrition & Dietetics and a Bachelors in Exercise Science and Psychology. He also runs a nutrition consulting business called 'Health Man Mark' where he composes eating plans for clients. ■





# **EXTREME WEIGHT LOSS AID**FOR MAXIMUM CUTS & FASTER RESULTS.





**CARBS STILL KEY?** 

A new study conducted by researchers at Australian Catholic University's Mary Mackillop Institute for Health Research and published in the Journal of Applied Physiology, shows that for highintensity, long-duration runs, exercising muscles prefer
carbohydrates as their
fuel source, regardless
of whether the runner
has eaten or not. The
study, conducted on
male competitive halfmarathon runners,
found that carbohydrates
contributed 83-91% of
the total energy used.



**HOW SCIENCE AND RESEARCH CAN IMPROVE YOUR TRAINING** 

# NEW PEPTIDE FOUND TO BOOST PERFORMANCE

A RECENT STUDY CONDUCTED ON MICE AND PUBLISHED ONLINE IN THE PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES EARLY EDITION, SHOWS THAT EXERCISE CAUSES MUSCLE TO RELEASE A PEPTIDE THAT BUILDS THE MUSCLE'S CAPACITY FOR ENERGY PRODUCTION AND INCREASES PHYSICAL ENDURANCE, ENABLING LONGER, MORE INTENSE EXERCISE.

The peptide called musclin is an "exercise factor" – a hormone-like substance produced by skeletal muscle in response to exercise and released into the bloodstream. The study shows that increased levels

of circulating musclin trigger a signalling cascade that improves muscle performance and promotes the production of mitochondria in muscle cells, which improves aerobic capacity.

#### FAT BUT FIT MYTH DEBUNKED

A recent study conducted by researchers in Sweden and published in the International Journal of Epidemiology, has dismissed the concept of 'fat but fit'. The researchers found that the beneficial effect of aerobic fitness was reduced with increased obesity, and in those with extreme obesity there was no significant effect at all.

#### **DE-STRESS TO WEIGH LESS**

Chronic stress may be the answer to your inability to lose weight. Researchers from the University of Florida Health have discovered that chronic stress stimulates production of betatrophin, a protein that inhibits an enzyme involved in fat metabolism. The findings from cell and mouse model experiments were published in the journal BBA Molecular and Cell Biology of Lipids.

#### WINTERGREEN'S ICE SPRAY: AN ICE PACK IN A CAN

Wintergreen's Ice Spray provides immediate relief for mild pain associated with arthritis, backache, muscle strains, sprains and bruises, with a blend of menthol and peppermint.

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# ESSENTIAL PHOSPHOLIPIDS

**ESSENTIAL PHOSPHOLIPIDS (EPLS) ARE ESSENTIAL FOR CELLULAR HEALTH AND WELL-BEING.** They are the building blocks of every cell in your body, forming many of the intricate structures inside cells and the protective membranes around them. Cell membranes are extremely delicate structures, easily damaged by medicines, toxins and free radicals (oxidants). For cells to survive, damaged phospholipids need to be constantly replaced. EPLs have also been shown to have anti-oxidant and anti-inflammatory properties. Furthermore, EPLs play a major role in your body's detoxification process, whether it involves chemicals or medicine. The organ subject to more membrane damage than any other is the liver, and this can be related to low EPL levels. To keep your liver healthy, steer clear of potential toxins by avoiding unnecessary medicine, excessive alcohol and environmental pollutants. You also need to eat a healthy diet high in phospholipids. While phospholipids are present in almost all foods, particularly eggs, milk and other dairy

products, and soya beans, the quantities are not well defined. Essentiale

This is where a supplement can help. Essentiale Extreme contains a high concentration of 300mg of EPLs in each capsule.



A systematic review of hundreds of studies contradicts previous advice that static stretching before exercise can increase injury risk. The review found that incorporating static stretching into a full warmup routine that also includes an initial aerobic component,

dynamic stretching and then active and dynamic sportspecific activities should not result in significant performance impairments and may, in fact, reduce muscle strain injury risk. The systematic review was published in Applied Physiology, Nutrition, and Metabolism

# **PERCENT**

the degree to which you're less likely to be overweight or obese if you live in a neighbourhood that is conducive to walking, according to a Fraser Health Authority study that was presented at the recent World Diabetes Congress in Vancouver.

#### THE NEXT BIG INTERNET TV?

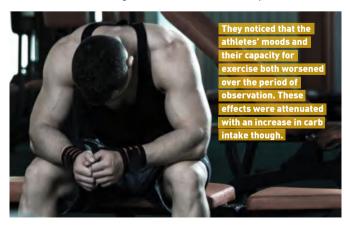
A 16-year study that followed the TV-watching habits of more than 221,000 adults, and published in the December 2015 issue of the American Journal of Preventive Medicine, found that every four hours spent binge-watching TV every day increases the risk of death from chronic disease by 15%, compared to those who watched less than an hour of TV per day. Those who watched seven or more hours of TV daily had a 47% increased risk of

early death.

#### **TOO MUCH TRAINING AFFECTS SLEEP**

Scientists from Loughborough University studied the effects of two nine day periods of heavy training on 13 highly trained cyclists. The research team discovered that even as little as nine days of intense training can cause "significant and progressive decline in sleep quality" as the number of times the athletes woke throughout

the night "significantly increased" during the course of the study. They also noticed that the athletes' moods and their capacity for exercise both worsened over the period of observation. These effects were attenuated to some degree with an increase in carb intake though. The findings were published in the Journal of Sports Sciences.



# OFF THE BEATEN TRACK

#### IN SEARCH OF THE BEST ALTERNATIVE GYMS IN SOUTH AFRICA



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Funxtional Fitness is a training facility for everyone, from the beginner, student, and stay-at-home mom to the seasoned triathlete. The facility and its qualified staff strive to increase the performance and quality of life of their clients through effective fitness programming.

#### **INTERVIEW WITH OWNER LEROY SAUNDERS**

#### Tell us a bit about yourself and your preferred form of training.

My fitness journey started in martial arts, practicing mainly muay thai for around five years. During this time I was privileged enough to represent South Africa as part of a team that travelled to Italy for the WTKA World Championships. I also got to train at the Emerald Gym in Thailand. I then became interested and involved in functional training and calisthenics, having seen first-hand the increase in performance this form of training added to my fighting and other areas of my life. This sparked my career in the functional training industry. With the development of my own skills came the opening of Funxtional Fitness and the privilege of helping others improve their lives. When it comes to functional training I believe variety is the

key. I don't have a preferred form of training as I like to incorporate several modalities including mobility, endurance, weight or power lifting, tactical fitness, and calisthenics, among others, performed with a combination of both high and low intensity sessions.

#### How would you describe your gym?

As one of my members once said: "it feels like home". Personally, I like to keep the space functional and inviting. I want a person to count down the hours before they come and train, and then leave the gym with a feeling of contentment and satisfaction, eager to come back for more when the results start showing.

#### What is your training philosophy?

With the right training, motivation and commitment, anything is

possible. We are not all natural-born athletes but hard work beats talent when talent doesn't work hard.

#### What services do you provide and what types of clients do you cater to?

We offer functional group training, calisthenics, Tacfit, personal training and yoga. Our clients vary from people who just want to get fit, lose weight or get into shape, to cyclists, golfers, rock or sport climbers, obstacle race athletes, runners and martial artists. We like to make sure clients get a varied full-body workout each time they train.

#### What facilities do you have?

We have a large open floor area that houses battling ropes, weightlifting equipment, kettlebells, dumbbells, punching bags and more. Our dedicated calisthenics area includes pull-up rigging, gymnastic rings, ropes, peg boards, monkey bars and dip rigs. We also have a padded mat section for all the mobility work, and handstand and floor-based bodyweight movements. We also have a yoga studio and an outside section that we use for all our tyre work.

#### Tell us a bit about your trainers.

Our trainers come from varied fitness backgrounds, from martial arts to other competitive sports such as running, cycling, climbing and obstacle course racing. Due to the ever evolving nature of the fitness

industry all of our trainers are constantly adding to their knowledge and skills.

#### How does your training and facility differ from other, more commercial gyms?

We keep our functional classes small, limited to no more than 22 people. This enables us to give each person the personal attention they need to make progress in a safe manner, especially

when it comes to those who are just starting out. Calisthenics, Tacfit and yoga classes are even smaller as even greater attention per member is required due to the technical nature of these forms of exercise.

### What benefits would someone gain by training at your facility as opposed to a big commercial club?

Everyone develops a personal relationship with the coaches, so they're not just another number walking through the door. This equates to personalised guidance, custom eating and lifestyle plans and the constant monitoring of progress to ensure clients are on the right track. There is no overcrowding as we limit the numbers in our classes and those engaging in personal training also get complete privacy.

#### What is the atmosphere like at your facility?

The people in our gym always support and motivate each other, while still keeping that healthy competitiveness alive. The environment is therefore friendly and exciting, with a slight air of competitiveness. After all, exercise is hard work but there is no reason why you can't have fun doing it. We also try give our gym a clean but unconventional grungy feel. We feel this environment enables clients to achieve more and push a little harder than they would when training on their own or in a commercial gym.







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- >> Performed by Lendo Greyling
- >> Image by Soulby Jackson
- >> Shot on location at Body Concious Gym, www.bodyconcious.co.za

#### FOCUS ON FORM

Range of motion will be compromised if your grip is too wide or the weight is too heavy. Don't swing your

Don't swing your body back and forward to facilitate a heavier weight. Keep your elbows pointed straight down during the exercise.

#### MOVEMENT TYPE

Downward rotation and depression of the scapulae combined with adduction and extension of the shoulder joint.

PROGRESSION: This is an ideal exercise to develop the requisite strength needed to do unassisted pull-ups, which is the undisputed king of back strength and lat-building exercises. The lat pulldown movement can also be performed with grips of varying width, both pronated and supinated.

#### **WHY IT WORKS**

In the world of physique development, this is one of the best compound exercises to build wide bat wing-like lats.

It is a tried and trusted exercise included in the regimens of all serious bodybuilders for its ability to accentuate that desirable V-taper, which is why you should also include it in your programme. However, this exercise does more than just improve aesthetics. It is also an important exercise to help develop and maintain optimal shoulder mobility.

#### **MUSCLES TARGETED**

PRIMARY: Latissimus dorsi
SYNERGISTS AND STABILISERS: Brachialis,
brachioradialis, teres major, posterior deltoid,
rhomboids, levator scapulae, lower and middle
trapezius, pectoralis major, pectoralis minor,
biceps brachii, triceps.

#### WIDE GRIP LAT LAT PULL-DOWN

#### BUILD BIGGER LATS

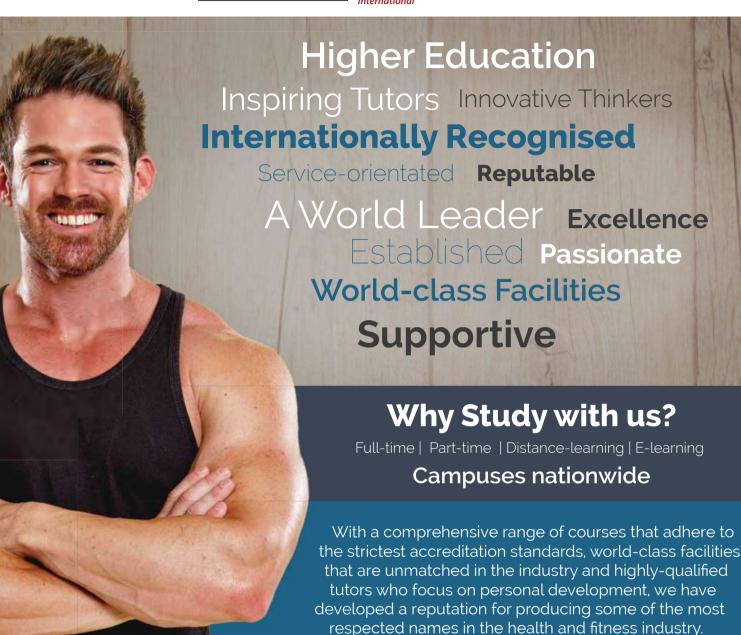
One of the best compound exercises to build a bigger back.

#### **Starting**

Grasp the bar with a wide grip (wider than a shoulder-width grip) with your palms facing forward. Sit down on the chair with your thighs positioned under the padded supports.

#### The movement

Lean back slightly keeping a straight back, with your chest pushed out. Pull the bar down to your upper chest by drawing the shoulders and the upper arms down and back. Squeeze your back muscles once you achieve full contraction. Return the bar to the starting position under control until your arms and shoulders are fully extended.



Gavin Perry

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#### PROVE YOURSELF FIT:

# **HUMAN FLAG**



isolation. To do the human flag properly, you'll

so strong you'll become virtually unbreakable.

#### BELOW YOU'LL FIND SIX PROGRESSION EXERCISES. THE FIRST THREE ARE BASED ON THE CLUTCH FLAG AND THE FINAL THREE ARE BASED ON THE PRESS FLAG.

You'll want to progress through the exercises, mastering each one so that you can hold it for 10 seconds before you move on to the next. **Ready to get started? Let's go.** 

### THE STORY OF TWO FLAGS

The 'human flag' as you know it, is actually referred to as the press flag. It's the ultimate version of the human flag and something that will take some time to build up to. You'll begin with a move referred to as the clutch flag, which helps you build the strength needed to graduate to doing the human flag.

#### 1.BENT KNEE CLUTCH FLAG

HOW TO DO IT: Start by standing next to a pole or other vertical object you can easily grasp. Place the pole directly against the back of your shoulder right in your armpit area. Lift the arm directly out to the side, keeping the elbow bent as the rest of your body remains upright. Curl that lifted arm around the pole and grab hold with your hand. Be sure to keep your index finger pointing down, with the other fingers wrapped around the pole. Place your other hand against the base, wrapping your fingers in the direction away from your body, with the hand at hip level. Keep

this hand as tight as possible as it will be what prevents you from falling. Take a step back while keeping your waist tense as you brace to lift yourself up off the ground. Lift your feet up off the ground, bending your knees as you do. Hold this position.

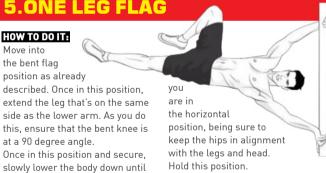
#### 4.BENT FLAG

HOW TO DO IT: Stand near an upright pole or another object so that you are about 34 of an arm distance away. If you stand too close, you'll only make this exercise harder on yourself. With one arm (the one you want on the lower portion of the pole), reach down and grip the base at about hip height. Keep the top part of your palm facing up with your middle finger pointing down. Tense the muscles as you keep your arm straight. Lift the other arm up and place it on the pole as well, this time a comfortable distance above your head. Use either a thumbless or a wrapped grip, making sure to keep your thumb below your palm. Twist your body so that your side is facing toward the pole and your chest facing forward. Note that you may need to adjust your stance slightly to do this as you'll feel your top shoulder rotate. Begin to push

through the lower hand and pull with the top hand to generate some tension in the upper body. Once ready, kick one leg down towards the base and then explode upwards as you jump your knees up towards the sky/ceiling. Bend the knees as you do. As you reach the top of the movement, rotate the hips so they face up, which should cause vour knees to move above your torso. Hold this position, keeping the core and upper body as tensed as possible.

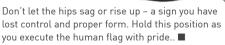






#### **6.FULL PRESS FLAG**

HOW TO DOTT: Move into the bent flag position as described. Once in this position, extend both knees so that you are in an extended position, with the front of the body facing forward. Note that as you lower yourself, the less shifting your body has to do, the better. With your upper body and core tight, begin to lower the legs down, keeping the knees extended as you do. Arrive so that the legs are parallel to the ground, then hold that position.



#### THINKING INSIDE THE BOX

# WHERE TO FROM HERE? THE FUTURE OF THE BOX

ince its inception there have generally been two flavours of CrossFit to choose from - CrossFit for general physical preparedness (GPP) and competitive CrossFit through the local CrossFit circuit, the CrossFit Open, CrossFit Regionals, and the Games. Things are starting to change though with a definite shift happening in the community.

CrossFit has grown exponentially since its inception in 2000, when CEO Greg Glassman was doing one-on-one personal training sessions in a 'globo gym', to today where it is a global fitness phenomenon with over 12,000 CrossFit boxes worldwide. Since 2007 and the inception of the CrossFit Games there has been a marked increase in the CrossFit community's focus on the competitive aspect.

During this time some coaches, trainers, athletes and members have lost sight of the true essence of CrossFit and the reasons they began to train in this manner in the first place. However, with the path to the CrossFit Games becoming increasingly difficult and elitist, the CrossFit community is almost being forced to shift back to its roots.

"THE SOUTH **AFRICAN MARKET HAS REACHED A** SATURATION POINT WITH REGARD TO CROSSFIT BOXES. **INSTEAD OF THE PUBLIC HAVING TO** TRAVEL TO FIND A 'SPECIALIST' **CROSSFIT BOX, THEY GENERALLY HAVE THREE OR FOUR OPTIONS WITHIN A SMALL RADIUS OF** THEIR WORK AND/OR HOME."

#### MARKET IS SATURATED

The prevailing economy is also bringing about change.
CrossFit affiliates are required to pay an annual affiliation fee of \$3,000. With the weakening rand, South African affiliate owners are battling to keep up due to the speed of the depreciation of the currency. As a result, many are choosing to disaffiliate because they do not have the funds to pay these fees. These boxes or gyms will continue to run and offer the same training programmes and routines that

they did under the CrossFit affiliate banner, but without paying the roughly R50,000 a year needed to use the CrossFit name. It is a sensitive subject as this is an ethical and moral issue as much as it is a business one. If they are going to use the same training methodologies and philosophies as CrossFit, should they not pay their affiliation fees and remain under the CrossFit banner? Yet, why pay the affiliation fee if they can continue to do business the exact same way?

Will business be exactly the same or will the public want to train at a box that is a registered affiliate? It does of course mean those athletes won't be eligible for any competitions. But will the general public even know the difference?

I mention this because the South African market has also reached a saturation point with regard to CrossFit boxes. Instead of the public having to travel to find a 'specialist' CrossFit box, they generally have three or four options within a small radius of their work and/or home. In the early days of CrossFit in

SA, boxes were owned by trainers and coaches who were extremely passionate about fitness and had a background in the industry. Over the years, many boxes have opened with coaches and trainers who have little or no prior experience in health and fitness. Their two-day level 1 certification was sufficient to get started, with external investors looking to make a quick buck. While these boxes have opened for the wrong reasons, they helped accelerate the rate at which the market reached this saturation point. Now, with boxes closing

Julian Reichman-Israelsohn is the owner and head trainer at CrossFit Platinum due to the difficulty in getting feet through the door, most of the flyby-night boxes are closing down, but so too are some legit ones.

Due to the combination of these factors – the level and qualification requirements of competitive CrossFit, the weakened rand, the disaffiliation of boxes, and market saturation – box owners are having to think "out-of-the-box" and get more creative to stay afloat and attract new clients. This is driving a shift back to a focus on CrossFit training for GPP. Trainers and coaches are also offering more one-on-one personal training sessions (the way the

methodology was started), and there is a general diversification of the training being offered at the box. There are various specialty CrossFit certifications that many trainers and coaches in the country possess such as CrossFit Gymnastics, Endurance, Weightlifting, or Mobility. Offering these extra classes or fitness routines may attract more people or a more varied member base. It also gives members the peace of mind that their fitness routine and programme, through CrossFit, will be aimed at making them better at their chosen sport with their goals taken into account.

#### CHANGING WANTS & NEEDS

There is no doubt that
CrossFit has opened the
public's eyes to the multitude
of training modalities that are
out there, many of which have
been around for years. Many
people are also finding that they
have a gift or talent for other
forms of exercises thanks to their
CrossFit training, and are putting
in extra time to improve at their
'new' chosen sport.

It is also fair to say that CrossFit has increased interest in Olympic weightlifting and powerlifting, where many CrossFit athletes are successfully competing against established athletes within those communities.

CrossFitters have also helped to boost participation in the growing number of obstacle course races held around the country. In addition, many CrossFitters are also looking into swimming, cycling, mountain biking, running, triathlon, and Ironman endurance events, which are sporting codes many would never have considered before they entered a box. CrossFit has given them the confidence, strength and desire to try these new sports.

Accordingly, CrossFit box owners

"Many CrossFitters are looking into swimming, cycling, mountain biking, running, triathlon, and Ironman endurance events, which many would never have considered before



and coaches need to focus on the ever changing wants and needs of the public and structure the training and routines offered within their facilities to accommodate these evolving requirements.

I too am trying as many endurance events as possible in 2016, and have broadened my specialist offering by becoming the only trainer in South Africa to complete the SealFit Comprehensive Academy and Kokoro Camp. Adding the SealFit experience and training to my existing CrossFit Level 2, Endurance, Gymnastics, Kids, and Mobility qualifications, and my other industry-related certifications has enabled me to expand the application of CrossFit outside of just GPP and competitive CrossFit training. And that's the key to sustainability in 2016 and beyond. Sixteen years on from its inception, one cannot call CrossFit a "fad". It is here to stay, but to remain successful and relevant its application will need to change, particularly in the local context. ■





Basic endurance training is used to build the platform of the aerobic (meaning 'with oxygen') system which is used for long-term, steady-paced exercise and day-to-day activities. From there, without getting too technical, we progress to developing the anaerobic (meaning 'without oxygen') system which fuels short, powerful bursts of speed. This can be trained through high-intensity aerobic and tempo work, lactate threshold sessions and maximal effort sessions.

Just beware, these higher intensity sessions put the body under greater stress and loads, which is why a solid base or foundation of aerobic fitness and strength is required before advancing to this level of training. It is therefore ideal to first speak to a coach who can design a properly periodised programme for this level and intensity of exercise.

Periodisation is the science-backed approach used by elite endurance athletes and coaches to structure their training. The athlete progresses through the distinct training cycles of preparatory (base), pre-competition (build or intensity), a short tapering phase (recovery), competition (race), and a transition (off-season) phase. The duration of each phase depends on the how much time you have to train for the race, your training history and your prevailing fitness levels.

To build volume and intensity with my triathletes, I generally use a three-week build phase, followed by a one-week recovery cycle. This strategy usually works best for beginner and intermediate endurance athletes who are new to structured training or have just a few years in the sport. In this manner the athlete is able to slowly build volume and intensity over three weeks, and they then have a week of rest and active recovery to repair and rebuild. They then return a week later, stronger and fitter than they were before. I use this method to get beginner athletes ready for a half Ironman in six months (a client starting at this level is expected to already be able to swim 400m, cycle 40km and run 5km. Anyone below this level would need to start the beginner's course and progress from there).

Gym and strength work should also form part of your weekly training and this too should be structured in phases to allow the best adaption possible. The phases range from stability and endurance, to maximal strength and power, and finally a maintenance phase. There are many reasons to engage in some form of strength work, the most important of which are that it makes you more efficient and ultimately faster.

By improving all-over strength your body becomes more efficient at using energy, and your body also works as an integrated unit with each muscle able to fulfill the role it was designed and intended for. This makes an athlete more efficient at human movement, which ultimately means you're able to use less energy to produce greater output and can therefore sustain higher speeds for longer periods.

In addition, by developing fast twitch muscles fibres through strength training you improve neuromuscular firing which makes you even faster and more powerful. This has a great benefit for both speed and endurance, and will aid you at the end of a race if you need to put in a burst of speed to beat the cut off or get that personal best that

"BY IMPROVING
ALL-OVER STRENGTH
YOUR BODY
BECOMES MORE
EFFICIENT AT USING
ENERGY."

you've been working for.

Strengthening the body in the gym can also help to prevent injuries. The body is generally dominant on one side and this can cause overuse and compensation injuries. Isolating body parts in the gym and using dumbbells and free weights are a great way to keep both sides equally strong and prevent these kinds of injuries. For this reason, unilateral training is a common approach adopted by endurance athletes. As an example, when training legs you would use one leg at a time to execute exercises such as single leg presses or single leg extensions and hamstring curls.

A strong core is the final element required to produce strong, efficient endurance athletes. The longer you can keep your form, the greater your efficiency which is important for all the reasons already mentioned. While most compound exercises work this area, it's imperative to actively engage your core during every exercise and to also target it with specific moves. Training the core in this manner will ensure energy can be transferred from the body's powerhouse to the extremities for more powerful, sustained human movement, which will make you a better athlete.



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F YOU'RE LOOKING TO JACK UP YOUR NATURAL PRODUCTION OF ANABOLIC HORMONES, ENHANCE YOUR STRENGTH, AND SHOCK YOUR SYSTEM INTO MAJOR MUSCLE-BUILDING MODE, THEN THIS MAXIMUM INTENSITY, HIGH VOLUME TRAINING METHOD IS EXACTLY WHAT YOU NEED.

The 'pump-max' training method I have developed combines two 'waves' of work. Each 'wave' consists of two light, submaximal pump sets followed by a high volume, all-out max set.

The pump sets are usually around 6-8 reps and are meant to flood the targeted muscle with blood and ingested intraworkout, liquid-based nutrients such as fast-absorbing BCAAs, citrulline malate,

and any pre-workout ingredients you may have consumed from your preferred supplement. You should aim to contract and squeeze the muscle hard and really focus on your mind-muscle connection during these sets.

The max set is exactly that, an allout set that you'll take to the point of complete muscular failure. Ideally, your first max set in the first wave of work should fall between 8 and 12 reps, and your second max set in the second wave of work should fall between 15 and 20 reps.

Importantly, for all reps, perfect form is expected without compromise to avoid injury due to sloppy or improper technique.

# A MAX INTENSITY AND HIGH VOLUME TRAINING METHOD TO BUILD MUSCLE AND STRENGTH

>> By Dr. Matt Gaston Villanueva, Ph.D., C.S.C.S.

>> Images by Michael Neveux

# PUMP MAX TRAINING

#### **PUMP MAX DELTOID DEMOLITION**

As a practical example of how to implement the principles of pump max training, I have laid out one of my favourite shoulder workouts to illustrate this training method to deliver extreme muscle growth.

#### In this workout, you will get the best of everything:

- Effective pressing exercises that hit all three deltoid heads during the movements
- Isolation exercises that pinpoint and demolish your front, side,

and rear delts, and

■ The anabolic benefits of creating a maximal muscle pump.

The shoulder muscles have

The shoulder muscles have insane potential for serious growth! The three heads of the deltoids (delts) are a group of muscles that make up our shoulder. A well-rounded approach is needed to hit all three heads of the delts – the anterior (front), medial (side), and posterior (rear) – for you to maximise your shoulder growth potential.



Your exercise selection for your shoulder workouts is crucial. While there are hundreds of shoulder exercise variations out there, in general, you can categorise them as either pressing or isolation movements.

Pressing exercises are multi-joint (a.k.a. compound) movements and involve more than one joint and muscle when you perform them. For example, an overhead shoulder press using two dumbbells or a barbell involves the shoulder and elbow joints and the shoulder and triceps muscles. Incorporating and mastering presses sets the foundation for your shoulder development. Presses are ideal for stressing the entire deltoid musculature, handling heavier loads and higher intensities, and eliciting major performance and size gains.

Isolation exercises are singlejoint movements and are often performed at various angles (i.e., in different body planes) using different wrist alignments. With each isolation exercise, you are capable of really dissecting the delt and hitting specific heads; this characteristic of these types of exercises makes them absolutely necessary for overall shoulder development, symmetry, and aesthetics. For example, front raises using two dumbbells and a pronated grip (palms facing down during the movement) can really 'smoke' the medial head of the delts, while front raises using two dumbbells and a neutral grip (palms facing in during the movement) can really burn out the anterior head of the delts.

If you are the type of lifter who always seeks to add variation to your training regimen and protocols, this is an excellent workout to mix into your rotation. Each exercise in this five-exercise protocol targets a different part of the deltoid, starting with multijoint pressing exercise variations and finishing with the isolation exercise variations.

#### THE EXERCISES

1. BARBELL STANDING BEHIND-THE-NECK SHOULDER PRESSES

This move hits all three heads, primarily targeting the front and rear delts

2 DUMBBELL SEATED PISTON SHOULDER PRESSES

This exercise hits all three heads, primarily targeting the front delts;

**3.** DUMBBELL SEATED ARNOLD PRESSES

Hits all three heads, primarily targeting the front delts;

4. KETTLEBELL DOUBLE-ARM UPRIGHT ROWS

Primarily target the side and rear delts, in addition to the upper traps

5. PLATE STANDING FRONT RAISES

Primarily target the front delts.

GET YOUR BODY AND YOUR MIND READY FOR THIS. WITH THE AID OF A RIDICULOUS PUMP AND HIGH-QUALITY MAX EFFORT WORK. YOU WILL BE WELL ON YOUR WAY TO CREATING AND SCULPTING SOME DOMINATING DELTS!

#### HE WORKOUT

**REST INTERVAL BETWEEN SETS:** 

Between sets 1 and 2: 45 seconds

Following max sets: 90 seconds

#### BARBELL STANDING BEHIND-THE-NECK PRESS







**EXECUTION CUES:** Keep your trunk stable and neutral during the press. Retract your shoulder blades - squeeze your middle back - to get the barbell and your arms into the correct position for the press. Keep your wrists directly above your elbows - do not externally rotate your shoulders and position your wrists behind your elbows. At the top-end of the press, extend your elbows to a point just short of complete lockout at the elbow joint.

#### L SEATED PISTON SHOULDER PRESS







WAVE	1
SET	REPS
1	6-8 reps each arm
2	6-8 reps each arm
3	Max reps (between 8-12 reps each arm)

**REPS** 

6-8 reps

6-8 reps

Max reps

REPS

6-8 reps

Max reps

WAVE 2	
SET	REPS
1	6-8 reps each arm
2	6-8 reps each arm
3	Max reps

**EXECUTION CUES:** You will be using a pronated grip (palms facing out) during this exercise. The piston variation is characterised by beginning and ending an alternating press in the extended position. This will keep constant tension on your delts during the entire set. Keep your trunk stable and neutral during the press. As you are seated, it will be extremely hard to use a lot of momentum to perform the movement, so pay attention to your form and keep your technique strict.

#### DUMBBELL SEATED



#### WAVE 1

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps (between 8-12 reps)

#### **WAVE 2**

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps (between 15-20 reps)

**EXECUTION CUES:** Throughout this movement you will be using three different grips. These include:

- 1. Start with a supinated grip (palms facing towards you), with your hands level with your shoulders;
- 2. As you initiate the press, you will simultaneously horizontally abduct your shoulders (rotate them away from the midline of your body) and transition into a neutral grip (palms facing in) during the middle of the press;
- 3. To finish the press you will use a pronated grip (palms facing out) and extend your elbows to a point just short of complete lock-out.

Reverse this motion when executing the downward (eccentric) phase of the exercise and return to the starting position. As always, keep your trunk stable and neutral during the press, and pay attention to your form and keep your technique strict.

#### KETTLEBELL DOUBLE-





#### **WAVE 1**

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps (between 8-12 reps)

#### WAVE 2

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps (between 15-20 reps)

**EXECUTION CUES:** Keep your trunk stable and neutral, and keep your hands and the kettlebell close to your body during the movement. Do not hunch over the kettlebell, and do not swing the kettlebell away from your body as you row. Always initiate the exercise with your elbows fully extended to maximise the pre-stretch on your biceps and forearms. Finish the movement with your elbows higher than your wrists and your hands just below your chin, approximately level with your collar bone). Lead with your elbows and squeeze your upper traps at the top-end of the range of motion.

#### STANDING PLATE





#### **WAVE 1**

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps x 120
	(as many as possible or between 8-12 reps)

#### **WAVE 2**

SET	REPS
1	6-8 reps
2	6-8 reps
3	Max reps
	(as many as possible or between 15-20 reps)

**EXECUTION CUES:** Keep your trunk stable and neutral during the movement. Do not sway as you execute the exercise. Your hands should be level with your shoulders at the top end of the range of motion. Lower the plate slowly and under control during the downward (eccentric) phase of the movement.

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#### AT THE **BEGINNING OF 2015 I WAS APPROACHED BY A CLIENT AND** FRIEND, WHO **PROPOSED THAT WE TRAIN FOR** SOMETHING BIG.

He had been looking for a challenge that resonated with what we do in the gym – a  $\mbox{mix}$ of CrossFit, endurance and strongman-type activities. After a bit of research he said that he had found it - The SealFit and Unbeatable Mind ultimate test of character at Kokoro Camp.

Kokoro Camp is the pinnacle of the SealFit and Unbeatable Mind training. It is inspired and based on the US Navy Seal "hell week" - 50 hours of non-stop physical and mental exercise and 'grind' with no sleep.



>> By Julian Reichman-Israelsohn, owner and head trainer at CrossFit Platinum

# ATABLE MIN

#### MIND & BODY

ccording to www.SealFit.com, "SealFit was developed by retired Navy Seal Commander Mark Divine for the unique and specialized needs of professionals seeking to reach their full potential, for first responders, industrial athletes and military forces, and life-long warrior-athletes to perform their jobs and come home safely.

We all share a need for our minds and bodies to work at peak performance over long periods of time, while maintaining an unconquerable spirit and unwavering mental toughness. At SealFit we share this passion and aspire to train you if you seek this way of life."

In this regard, the greatest challenge that SealFit offers is the Kokoro Camp. This is described by SealFit as "quite simply, the world's premier training camp for forging mental toughness, modeled after the US Navy Seal Hell Week ... it is brutal ... it's not for everyone. You may not qualify, or make it through the training. Yet, if you're ready for this challenge, you'll find it to be an experience that changes your life forever."

The website goes on to explain that Kokoro is designed to break you down, then rebuild you into a powerful leader and consummate team player - "the kind who makes everyone else better". "Whatever your path in life, the confidence and wisdom gained during this three-day intensive camp can multiply your performance and success by a factor that's impossible for you to fathom. Kokoro Camp is designed to help you discover the deep power of your resilient spirit over your mind, and your mind's control over your body. The programme is skillfully executed by a cadre of Seals with over 125 cumulative years of special warfare experience. During the camp you'll be pushed to your limits because that's where the biggest breakthroughs happen. That's also why this is not 'something you try'. It takes absolute commitment. You must have a deep and powerful reason for

attending this camp, and be ready to pay the price for the ultimate freedom you'll gain by the end of it. The elite team is there to push you beyond your perceived capability limits. Just when you think you can't go any further, we'll help you find a source of strength, of courage and power that you'll have access to for the rest of your life."

#### **MONSTER MASH**

ith that in mind we prepared for the camp for eight months. During that time our training routine steered away from one-rep max lifts as we focused on more volume-based training routines. Our workouts and training focused on cardiovascular fitness (endurance), strength endurance, stamina and mental fortitude. We ran, rowed, 'Airdyned', 'Watt biked' and swam almost every day. Workouts went from being the traditional five to 20 minute CrossFit WODs to 1-2 hour-long workouts. Core training is an integral part of the SealFit culture so we embraced that too.

In preparation for Kokoro, we entered the Ironman 70.3 in August which was going to be our pre-camp test of cardiovascular fitness and endurance. We sailed through it with flying colours. This also proved to be a great test as we had to train through

According to the website, the SealFit athlete demonstrates the following traits, distinct from the traditional sports athlete:

- 1. Must work at near peak output for very long periods of time, with unknown periods of rest.
- 2. Must be prepared for the known and equally prepared for the unknown.
- Does not always have access to a gym and the "proper" training tools
- 4. Is not competing to win, but to survive and accomplish a mission that can have life, death or strategic consequences well beyond their own pay-grade.
- 5. Must be strong, but not so concerned with maximal strength. Needs strength

- stamina to move heavy stuff far and long.
- 6 Must have exceptional endurance and be able to go long, under load.
- Must have an intense capacity for work in short, medium and long time domains
- 3 Must be durable, have powerful core strength, not be prone to injury, and knowledgeable about how to sustain the body at a high level of readiness over the long haul.
- 9. Must be mentally tough and trains to be so.
- 10. Usually works as part of a unit or team, and works out with that team.

.....

"WHATEVER YOUR PATH IN LIFE, THE CONFIDENCE AND WISDOM GAINED **MULTIPLY YOUR PERFORMANCE AND SUCCESS BY A FACTOR THAT'S** 

the cold of winter to be ready for the race, and Kokoro later that month. We also participated in Warrior Races and other obstacle course races to try and get used to the other types of training that may not be covered within the CrossFit environment.

All this training – long workouts, cold winter mornings and days, and endless endurance training are all great training methods physiologically speaking but it also taught us to deal with and endure the "suck" that comes with long endurance and stamina training. It was not all easy going and fun in the sun. These were mentally tough and demanding routines. Many times during these workouts we started asking ourselves "Why? For what? For whom? No one will know if we cut it short today..."

There is a lot of time to think during these kinds of workouts which is why one needs to learn to control the mind, your thought processes and your inner monologue. Negative thoughts can creep in to your head at regular intervals, willing you away from your goal and trying to throw you off your game, tempting you toward the easier path.

This is the mental strengthening required to prepare for the Kokoro Camp and the type of training needed to create the unbeatable mind. These hugely demanding sessions prepared us well and proved very useful when we eventually got to Kokoro.

## SEALFIT COMPREHENSIVE ACADEMY

decided to attend the SealFit Comprehensive Academy. This was an excellent decision as it helped us to be even more prepared for what lay ahead.

SealFit headquarters is based in Encinitas, Los Angeles, USA. It is neatly tucked away in a building complex with a large square concrete slab in the centre called the Grinder, on which stands a pull up rig, where much of the

training takes place.

The Comprehensive Academy is a six-day preparatory process and learning adventure that was developed to teach and enhance the attendees' chances of understanding and making the most of the Kokoro Camp that followed.

During the academy we stayed on site in a very well furnished apartment. All the academy attendees stayed together and we got to know one another as a real team should. We moved as one unit during every task or evolution, as it was termed. The idea is to replicate the way a Seal team lives, works and operates. We were on the clock from 04h00 in the morning until 20h00 at night and sometimes beyond that into the early hours of the following morning.

Our day would start with our 4am wake up call, followed by 90 minutes of yoga and meditation, and then a well-catered breakfast where we tried to cram in as many calories as we could in one sitting.

After that it was back to the Grinder for three hours of SealFit workouts and programming. A trip to the beach in our utility pants, boots and shirts then followed for another 2-3 hours of running, rucking, ocean swimming and sea sand adventures.

After heading back to headquarters for another calorie-filled flavoursome lunch, we had a two-hour lecture with the owner and mind behind SealFit and the Unbeatable Mind way of life, Mark Divine. After our lectures it was back to the Grinder for some more physical training, which usually incorporated some CrossFit, including some log PT with 100kg pieces of wood, TRX training, rowing machines and the obligatory strongman routines.

We finally finished our day with another awesome meal, following which we generally had some quiet time. This was when the guys would do some recapping of the day, including journalling and processing the events and the lessons learnt.



## SEALFIT KOKORO CAMP

behind us, we checked in to our already familiar SealFit headquarters with the other 32 visibly nervous and anxious participants. There was a lot of chatter about what we could expect and everyone had an idea of what was going to happen over the next 52+ hours, but none of it can ever prepare you for the mental and physical onslaught that ensues. It was, in a word, extraordinary.

Despite all the preparations. research, and comparing of notes, there was still an element of the unknown which was a large part of the appeal. There are no schedules and timelines, and no places to be. We just had to complete each evolution as it was introduced. Also, you don't get through Kokoro by focusing on the finish line. The focus needs to be on completing one evolution at a time. An extremely important tool in making it through the camp is knowing and understanding the reason you're there in the first place, and constantly reminding yourself of it – what the team calls know your "why"

If your "why" is unclear you will have a very rough time completing the Kokoro camp. We spent most of the next 52+ hours dressed in our utility pants, boots, and t-shirts. Over that time we did what most people only dream of achieving in their entire lifetimes.

From completing intense SealFit and CrossFit workouts, we went on to calisthenics sessions, long runs, short intense runs. We hiked and crawled on beaches, and up and down mountains. We carried and worked out with 100kg logs, swam in the sea, in lagoons and in swimming pools. We were measured against benchmark workouts and completed multiple fitness tests. We carried more stuff – rocks, sandbags, and each other – over all types of terrain

And all of this was done without any sleep. At no time were you allowed to sleep. If you got caught sleeping there were penalties for everyone in the team so we all had to look out for each other. We held it together through sheer grit and determination.

We were on the move 24 hours a day. We were permanently surrounded by some of the toughest individuals I have ever encountered, most of whom had been Navy Seals. Those who weren't Seals had seen combat as Green Berets, Army Rangers or

Rescue Divers. A huge part of the motivation was knowing that all your instructors had been through this experience and then some. They also never left your side. We were under the watchful eye of a pride of instructors through day and night. If we were in the mud or in the lagoon, then they were right there next to us. If we were in the sea at 2 o'clock in the morning, then they were too. During our hike up the mountain at midnight for six hours, they were leading the pack. It was hugely inspirational.

As we made our way through the evolutions, the field of candidates diminished. From a starting group of 32 candidates, we were whittled down to 17 by the end of the camp. It came down to how badly you wanted to complete the challenge, and those who finished also had a better understanding of their "why".

The feeling of exhilaration and relief at the end of the camp was amazing, and largely indescribable to those who have never experienced something like this before. Those who have know that it takes every part of your being to complete it and will therefore understand what I am trying to express.

As a regular civilian and CrossFitter I'm extremely glad and grateful to have completed the SealFit Comprehensive Academy and Kokoro Camp. It was truly one of the best events I've participated in and is something I would highly recommend for everyone, from the novice exerciser to the elite athlete, because you will learn more about yourself in those few days than any book could ever teach you. Hooyah!







owever, those who choose to supplement their running with various, albeit 'specific' forms of resistance training, often derive even greater benefit. One of the main reasons for this is that most of us are functionally weak due to a more sedentary lifestyle and the many hours we spend sitting each day. This has resulted in poor mobility and flexibility, weak cores and glutes, and shortened hip flexors, which are all essential to facilitate optimal, efficient running.

For these reasons every runner can benefit from some form of regular resistance-based exercise, in addition to their weekly running programme. Exchanging even a single running session for an hour in the gym can deliver huge benefits.

Jordan Metzl, M.D., a nationally recognised sports medicine physician and fitness instructor who practices at the Hospital for Special Surgery in New York City, is an expert who strongly advocates a cross-training approach for runners to reduce their chances of injury and make them better athletes.

His best-selling book, Running Strong: The Sports Doctor's Complete Guide to Staying Healthy and Injury-Free for Life, addresses common weak areas in most runners such as the glutes, hips, and core, which are all essential to providing stability while running and generating the power needed to run faster for longer. According to Metzl, "weak muscles not only slow you by breaking down your form but also create an imbalance in your body, which can lead to injury and sideline your training."

He suggests incorporating sport-specific exercises such as single-leg squats, lunges, and hops to build both strength and stability. "The benefit of great balance isn't just to prevent you from falling on your butt. A stable runner is a healthy runner and a more efficient runner. One of the most important elements of injury-free running is good alignment."

Every runner could therefore do with more resistance-based exercises in their weekly running repertoire. Here are five of the

best...

"WEAK **NOT ONLY SLOW YOU** BY BREAKING DOWN YOUR FORM **BUT ALSO** CREATE AN IMBALANCE **IN YOUR** BODY, WHICH **CAN LEAD TO INJURY AND** SIDELINE YOUR **FRAINING.**"

- for an assessment to determine if there are any underlying biomechanical issues or weaknesses that may be made worse with these exercises.
- lity to perform these exercises with proper form.
- nt without added resistance (body weight only) before adding weights to the exercise.
- When you do start to add weight get progressively hea and drop the reps.





This effective exercise is a great way to build superior unilateral strength (equal strength on both legs individually) while also developing solid joint strength and enhanced mobility in the hips, knees, and ankles.

**NGLE LEG PRESS** 

HOW TO DO IT: Position yourself in a leg press machine with one foot placed high up on the platform. Press against the platform to extend your knee and hip, stopping just short of full extension (maintain a slight bend in the knee). Lower yourself back down toward the platform, under control, by flexing your knee. Press back up to repeat the movement for the required reps. Once complete, repeat on the other leg.



#### SINGLE LEG ROMANIAN DEADLIFT

This advanced movement helps to strengthen the entire posterior chain, with specific focus on the glutes and hamstrings. It is also a unilateral exercise which helps to develop greater balance and stability throughout the various phases of the running gait cycle.

HOW TO DOIT: Stand upright with your feet together. Shift your weight onto one leg and hinge from your hips to extend the other leg out behind you. Keep your spine neutral and do not rotate your hips. Reach down to the ground with your arms. Contract your glutes to return to the starting position.

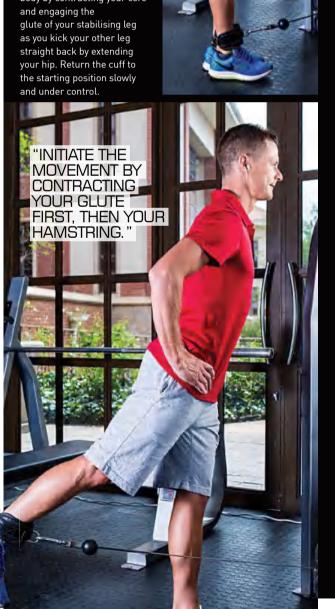




This is another great exercise to target your glutes to increase your power while running and also enhance stability on a single leg.

#### **HOW TO DO IT:**

Attach an ankle cuff to a low pulley and strap it to one ankle. Stabilise your body by contracting your core



#### **3-POINT PLANK**

Your core is what provides your main source of stability when you run. If you lack adequate strength in this area your body will start to compensate and other muscle groups will be used to help stabilise your body during the foot strike and transition phases of your gait. These muscles will soon tire which leads to poor form, compromised movement efficiency, and increases the likelihood of injury.

HOW TO DO IT: Lie face down with your forearms on a mat, with your elbows under your shoulders. Place your legs together with your forefeet on the floor. Raise your body up by engaging your core and straightening your body and legs. Lift one leg up and hold this position for 30-45 seconds before swopping sides. ■







PEND ENOUGH
TIME AROUND
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COMES WITH AGE

A cursory glance at results from ultra-endurance events around the world may seem to confirm this statement as a sporting truism, but once you get down to the bare-bone physiology, does it actually hold that much weight? Is it possible that an athlete in his late thirties or early forties can still have his best years ahead of him?

There are various examples of older athletes beating their younger, stronger counterparts in major races in the world of elite endurance sport. Meb Keflezighi's win at the 2014 Boston Marathon, for example,

two weeks before his 39th birthday, is arguably one of the more famous races. The "King of Kona", triathlete Craig Alexander, was also able to achieve what no other man in the history of triathlon had done when he won both the half Ironman and the Ironman World Championships in 2011, and he did that at the age of 38. Locally, trail running hard man lain Don-Wauchope, who turned 40 in April 2015, continues to dominate ultra-endurance events around the country. His achievements include five Otter trail run podiums since 2009, with his most recent win coming in 2014, along with three Salomon Sky Run titles, Southern Africa's toughest mountain run, including a course record in 2014.

So, are these results indicative of a norm whereby athletes get better at endurance events as they age or are they the exceptions to the rule?

Well, there is no question that physiological changes happen to the body after the age of 35 that makes it impossible for older athletes to compete against their younger counterparts in tests of speed and power. The general consensus among exercise physiologists is that peak endurance performance is maintained until 35 years of age, followed by modest decreases until 50 to 60 years of age, with progressively steeper declines thereafter.

It is worth noting though that winning gold medals and running world record times are vastly different. One requires an athlete at the peak of his physical and physiological potential with the mental fortitude to sustain an all-out effort for prolonged periods of time, as was the case at the 2014 Berlin marathon when a then 30-year-old Dennis Kimetto from Kenya set a world record time of 2:02:57. The requirements of the other feat - winning gold medals - is often a little different, and therein may lie the rub.

lan Craig, MSc, CSCS, INLPTA, who is an exercise physiologist, nutritional therapist, NLP practitioner and an endurance coach, states that there are many factors to consider when trying to

answer this question. "There is no doubt that certain physiological parameters decrease with age which means older athletes generally aren't going to be as competitive over the shorter distances where speed is the primary factor."

Science tells us that after the age of 35 there is a general age-related decline in basic physiological determinants of endurance at a rate of between five and 15 percent per decade. The most important of these is a gradual reduction in VO2 max – a factor of heart, lung and vascular system efficiency. Your maximum heart rate also declines with age which means a decrease in peak and threshold values, while peripheral circulation and capillary density can also be compromised as we get older.

Then there is the issue with recovery, which starts to take longer the older you get. More rest may therefore be required between both training and racing which affects the volume and intensity of a programme. The accumulated wear and tear on soft tissue also makes older athletes less flexible or more prone to injury.

Age-related muscle loss, known as sarcopenia, accelerates significantly from about age 60, and it affects type-II fast-twitch muscle



fibres the most. In an article written by Craig and published in FSN (Functional Sports Nutrition), he writes: "Sarcopenia, which in Greek means 'poverty of flesh' is a word that is used to describe the gradual loss of muscle mass during ageing and has been associated with a reduction in bone density, insulin sensitivity, aerobic capacity and basal metabolic rate." This muscle loss results in a loss of maximal muscle strength that decreases significantly with age, with an average loss of muscle mass of 40% in men from the age of 20 to 80.

As muscle is the major storage site for glycogen, the energy source generally needed to sustain high intensity activity, your ability to carry sufficient glycogen to fuel those longer hard efforts is also theoretically reduced. However, Craig points out that most of us only have enough glycogen storage capacity for sustained efforts of around two hours, so this wouldn't be a limiting factor in shorter duration events.

We also experience an agerelated decline in the production of important hormones that are vital to muscle growth and repair such as testosterone and human growth hormone, and metabolic efficiency also decreases due to muscle loss. The accumulation of oxidative stress over the years also impacts on the ability of your cells to regenerate, while the powergenerating structures found within cells, called mitochondria, operate less efficiently.

The sum total of all these changes adds up to an overall decline in a person's ability to sustain a high intensity of work over prolonged periods of time. To put it into context, a study conducted by researchers at the Institute for Physiology and Anatomy in Cologne, Germany, indicates that the agerelated decline in the marathon times among the top-10 male finishers occurred at a rate of about 10.5 percent per decade.

However, Craig points out that every athlete will age differently for a number of different reasons and one can also expect variances in the rate of decline based on a

AGE-RELATED **DECLINE IN THE MARATHON** TIMES AMONG THE TOP-10 MALE **FINISHERS** OCCURRED AT RATE OF ABOUT **10.5 PERCENT** PER DECADE

myriad factors. So, while the shape of the dip in the performance curve may look similar, there are many factors that can affect the age when that decline starts.

"Certain factors can conceivably extend an athlete's ability to continue performing at an optimal level into his forties. Take, for instance, someone who only starts running at the age of 40 who has superior genetics. He could conceivably peak in his mid to late forties and still compete well against athletes half his age. This obviously requires an innate talent, but because they haven't broken down their body during the course of a sporting career like many other athletes do, they will have greater longevity in their chosen sport." The fact that they are starting off a low base with a massive genetic advantage means their potential for gains can be exponential.

This can often be perceived as an improvement in endurance associated with age, when in fact it is merely a factor of natural progression over time as performance in endurance events decreases with age in a curvilinear fashion. It is a concept that was highlighted by author of the iconic running book Born to Run, Christopher McDougall, in his 2011 TED Talk titled "Are we born to run?". He stated that: "At the University of Utah, they started tracking finishing times for people running the (2004 New York) marathon. And what they found is that, if you start running the marathon at age 19, you will get progressively faster, year by year, until you reach your peak at age 27. And then after that, you succumb to the rigors of time. And you'll get slower and slower, until eventually

you're back to running the same speed you were at age 19. So about seven years, eight years to reach your peak, and then gradually you fall off your peak, until you go back to the starting point. You would think it might take eight years to go back to the same speed, maybe 10 years -- no, it's 45 years. 64-year-old men and women are running as fast as they were at age 19."

"It's an important concept to grasp if you are an older athlete trying to determine if your best years are behind you," explains Craig. He elaborates that few athletes fail to enjoy longevity at a competitive level in masters age categories if they started training and competing at an elite level from the age of 19 or 20. "Many burn out and fail to remain competitive into their forties, particularly with the demands of full-time training for elite sport today." British elite athlete Sonia O'Sullivan and American Ryan Hall are prime examples as both had to retire in their thirties. While their chronological age may have been low their relative athletic age, determined by their training and racing history, was much higher.

However, if you start later you can expect to push out that physiological peak somewhat. You may not catch the full seven to eight year up swing,

5024 "STUDIES SUPPORT THE NOTION THAT OL STAIN THEI 2 WHICH IS AN IMPORTANT SHAPING THE ERCEPTION THAT ENDURANCE IMPROVES WITH AGE."

particularly the closer you are to 50, but someone in their early thirties can carry on pushing it for a lot longer than they may initially think.

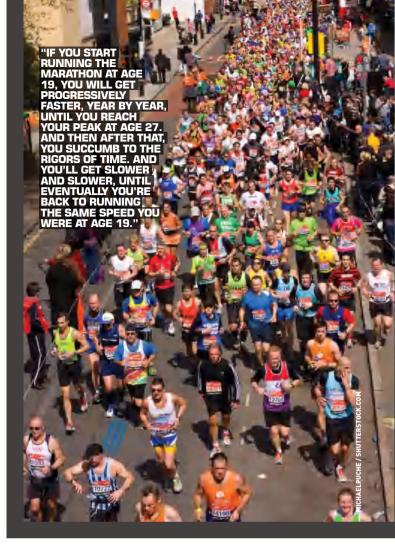
Also, based on the data, the drop off in performance is also a lot slower than previously thought. In fact, the German study conducted on marathoners confirmed that the decline in performance of non-elite athletes was lower and began later. "For these runners, significant age-related losses in endurance performance did not occur before the age of 50. Mean marathon and half-marathon times were nearly identical for the age groups from 20 to 49 years," lead researcher Dieter Levk was guoted as saving.

This effect has been seen in numerous other studies conducted on endurance athletes. For instance, a 2010 survey of nearly 200,000 participants in a 15km road race over a period of twelve years showed that for each year over 40, runners in this study slowed by only 0.2% - the equivalent of about one second per mile per year.

Another study conducted on masters runners between the ages of 50 and 82 years of age, who continued to compete on a regular basis over a 10-year period, showed a reduced decline in VO2 max compared to their non-competitive counterparts. This would support the notion that older athletes can sustain their performance near peak levels for a lot longer, which is an important factor in shaping the perception that endurance improves with age.

The truth, of course, is that from a physiological aspect it doesn't improve, it just doesn't drop significantly for a long time. It is therefore other factors that help to make these mature athletes better at endurance events, not necessarily faster.

One of these factors worth considering in this context is the natural progression of athletes. Craig elaborates: "Younger runners, for example, tend to focus on shorter, faster distances and then naturally gravitate to marathons and perhaps ultramarathon events as they get



older. That is often the reason why athletes tend to achieve personal bests over the longer distances later in life (they may only attempt their first race in their thirties), rather than due to any meaningful change to their physiology. Their training is also adapted accordingly and is therefore structured for that specific goal."

So, while there is an inevitable decline in performance when we age, there is sufficient evidence to suggest that we can maintain VO2 max at high levels up to the age of 49 with the right type of training, and that resistance exercise can also help to preserve muscle tissue or may even reverse sarcopenia to some degree, depending on when it is implemented.

Based on this fact there may be a case for stating that older athletes could keep their 10km and 21.1km running times close to but not at peak levels for longer with the right approach to training, yet seldom do runners engage in this form of training and racing as they conform to cultural and behavioural norms.

"Is it the natural progression of a modern athlete as cultural selection dictates that when they stop achieving personal bests at the shorter distances they generally decide to tick off a few marathons before they retire. Based on their genetic potential, the manner in which they have managed their body and their ability to recover, they may then end up winning a few of these longer races which reinforces the notion that endurance improves with age," states Craig.

Things are however changing in the world of elite endurance sport, with athletes as young as 21 now winning big endurance races around the world, proving that youth, with its superior physiology, will always be hard to beat.

The final point worth mentioning in the context of why many older athletes are able to outlast the younger guys on the trails and road is the value and advantage



#### that experience brings to the equation.

Andre Bekker is a local triathlon coach with 5th Dimension Coaching and a half Ironman age-grouper who still races at the sharp end of the pack – he will be 53 in April. In 2014, while racing in the 50-54 age category, he won three races in the season which secured him a first place ranking in his division going into the half Ironman World Championships.

"While I was having the season of my life, and would be able to compete with many guys half my age, I certainly wasn't at my physiological peak. In my early years at varsity I was able to run a 10km in around 32 minutes. I was also a pro rider for two years in the '90s and retired in 1996," recalls Bekker.

Despite staying extremely active throughout his thirties and forties, and still being able to run a sub-three hour marathon and an 85-minute half marathon. Bekker wasn't able to sustain that level of racing into his fifties. "That's not to say I wasn't a better racer. In fact,

I think from a tactical perspective I was in my prime during the 2014 triathlon season," he explains.

The reason he cites for his ability to continue winning races in his age group and place well overall isn't an increase in endurance performance. but rather a smarter, more mature approach to training and on race day that gives him the edge.

It's a common theme cited among coaches around the world, including Craig. "These athletes have been there many times before, at the edge of their physical capacity, and they know how to act, or how much longer they can sustain that effort. It's the power of experience and the knowledge they have gained throughout their careers that informs their approach. Obviously they still need tough physiology that is well above average to place well overall, but most athletes who perform well past the age of 35 are those who have been able to turn their experience into an advantage."

This is also echoed in the feedback Craig gets from his clients. "When my coaching

just spout rhetoric. The key themes are that they learnt what type of training, race strategy, diet, race fuelling and/or recovery techniques their bodies responded to best, which helped them to reach their full potential."

Bekker adds that through experience you also learn to better tolerate the pain. "This gives you the ability to endure, and your experience also helps you manage the race better. I find that I am more 'connected' with my body. I know when I can push or when to hold back. Seldom do older athletes get their pacing wrong by going out too hard at the start. We're not as aggressive as the youngsters, who have more energy and strength, but they lack some of the mental toughness and that vital tactical mindset," he says. "I also know what to do when things go wrong, and that often makes all the difference. I now race calm in

mileage in your legs, adds Craig, which means your training can be more targeted and specific. "You also have the option, and foresight, to take extra recovery days or add naps to your daily routine if needed, which is a major factor in maintaining your performance levels."

Bekker also has one additional theory as to the origin of the notion that endurance improves with age. "I think it's a matter of perception and it's all relative. You see. I have been racing since before the boom in mass participation endurance sport. Today we have more 'completers' than 'competers', which means someone with my history is likely to beat many thousands of people, most of whom are half my age. We're not better than we once were, we're just better in relation to the majority of the field which makes it seem like we're better than we really are at our age." ■

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ED ON THE CONCEPT OF ENERGY CE. The most common approach to losing weight is to burn more calories than you consume, within a healthy range. Many refer to this as the "train more, eat less approach.

There are, as always, a few caveats to this statement. Firstly, not all calories are created equal. You need to stick to healthy food sources that are nutrient dense to maintain health while creating a calorie deficit.

Secondly, the important role that macronutrient ratios play in the equation has been thrust into focus thanks to the low-carb, high-fat (LCHF) dietary movement. Whether you go full Banting or merely reduce your carb intake,

it is becoming clear that some degree of carb manipulation is needed to lose weight and stave off the lifestyle-related metabolic diseases that are so prevalent today thanks to our modern diets.

And, finally, we're

increasingly hearing that you can't out-exercise a bad diet. While there is sufficient science to support this stance, there are also caveats to the statement that need to be considered. This stance is largely predicated on the notion that most people don't have the time to exercise for sufficient duration and intensity to burn calories at the rate or to the degree needed to create a calorie deficit that is large enough to have any considerable effect,

particularly when a poor diet is followed.

Now, the re-emergence of a dietary approach established over 60 vears ago is turning this conventional wisdom on its head. How true is the claim that the best way to maintain your weight, or even lose fat and weight successfully is to train more, and eat more, not less?

#### **ENERGY FLUX**

A proof-of-concept pilot study titled "Increasing energy flux to decrease the biological drive toward weight regain after weight loss", published online on 18 December 2015 in the journal Clinical Nutrition ESPEN (European Society for Clinical Nutrition and Metabolism), has taken a closer look at a weight control concept that was first studied in the 1950s.

The energy flux hypothesis, which is determined by the rate of energy intake, expenditure, and storage, was first posited by Harvard nutrition professor Jean Mayer, Ph.D. in the early 1950s. A study he conducted at the Ludlow Jute Company in West Bengal investigated the diet, exercise, and weight of 213 male labourers.

The men were divided into five groups according to the physical demands of their jobs, with the sedentary group on one end of the scale, denoted as 1, through to "very heavy" work that was classified as a 5. The results of the study were published in 1956 by The American Journal of Clinical Nutrition and showed that all the non-sedentary workers those in groups 2 through 5 - were of similar weight and were all within a "healthy' range. This suggested that these men had achieved a neutral calorie balance, also known as a state of weight homeostasis. This means they consumed as much energy as they expended on

a daily basis. The sedentary workers in group 1, on the other hand, gained weight as they consumed more energy than they expended each day.

Similarly, the research team behind the recent ESPEN study, led by Paris Hunter, suggested that "weight loss induces compensatory biological adjustments that increase hunger and decrease resting metabolic rate (RMR), which increase propensity for weight regain. In non-obese adults high levels of physical activity coupled with high energy intake (high energy flux) are associated with higher RMR and reduced hunger." They therefore tested "the possibility that a high flux state attenuates the increase in hunger and the decrease in RMR characteristic of dietinduced weight loss."

Hunter's study found that average daily RMR was higher during periods of high flux compared to low flux, and that perceived hunger at the end of the day was lower and feelings of satiety throughout the day were higher in high flux conditions.

The research team therefore concluded that: "Following weight loss, compared to a sedentary LF (low flux) state of energy balance, a short-term HF (high flux) energy balance state is associated with higher RMR, lower perceived hunger, and greater perceived fullness, all of which could help attenuate the biologic drive to regain weight."

"High levels of physical activity coupled with high energy intake are associated with higher RMR and reduced hunger."



#### FINDING BALANCE

The findings from the studies from both Mayer and Hunter suggest that the metabolism is better able to self-regulate and maintain weight homeostasis by stimulating a hunger response that is commensurate with the energy demands imposed on the body each day when energy

For our ancestors, who needed to hunt and gather their food on a daily basis initially, and the agriculture subsistence farmers and manual labourers that then followed, achieving this level of daily energy expenditure was easy and unintentional. Back then people simply moved more every day.

In stark contrast, today we're mostly inactive and sedentary in the absence of any concious effort to move or exercise. This is when our innate weight-control mechanism seems to malfunction and we gain weight.

When this happens, what typically follows is a period of calorie restriction and spurts of intense exercise that swings our metabolism in the opposite direction. This approach mimics a form of starvation – increased energy demands and a lack of fuel to support those demands. This initiates the body's inherent survival mechanism, which is a combination of hormonallydriven metabolic adaptations that actually increase fat storage and slow our metabolic rate to

conserve stored energy.
Over time this makes
us less energy efficient
during exercise and at
tasks involved in daily life
which means we need to
do more work to burn the
same number of calories.
This is the main reason
why conventional diets
are unsustainable over
the long term.

There are also those who choose to forgo the exercise and must therefore reduce their calorie intake substantially to lose weight. This can then lead to deficiencies in critical nutrients, vitamins and minerals, which results in lower energy turnover, food cravings that often result in binge eating, poor hormonal profiles, poor digestion, mood swings, poor energy levels and poorer general health.

"THE METABOLISM IS BETTER ABLE TO SELF-REGULATE WHEN ENERGY FLUX IS HIGH."



#### **EAT MORE, TRAIN MORE**

The energy flux hypothesis therefore suggests a break from conventional weight-loss wisdom where exercise has generally been undervalued and diet overly emphasised. The truth is that by promoting a move to consuming more quality calories in conjunction with an increase in daily energy expenditure to maintain a high energy flux, both sides of the energy balance equation are adequately addressed.

In doing so, the energy flux theory suggests that your body and your metabolism will start to work in the manner they were designed to, thereby restoring weight homeostasis. When this point is reached, your weight can be maintained indefinitely.

There are also those who suggest that it is conceivable that your body will respond more effectively to fat loss efforts once this state is achieved. This is because the body no longer perceives that there is a threat of starvation as ample calories are being supplied to meet daily energy requirements. The body is then more likely to 'let go' of excess stored energy, the majority of which comes from stored subcutaneous fat, provided the correct training and macronutrient manipulation and timing protocols are used.

To better illustrate this point, take two hypothetical situations as an example. Person A restricts their calorie intake to 1500 calories per day and burns 1500 calories a day through a bit of exercise and their basal (resting) metabolic rate (BMR). Conversely, person B consumes 4000 calories a day and burns an equal amount each day through regular, intense exercise, additional daily movement, and their BMR requirements.

According to the energy flux hypothesis, person B will experience less hunger, be able to maintain their weight more effectively, and may have better success at improving their body composition by reducing body fat and adding more muscle mass, than person A because of a high energy flux. This is achieved by consuming and burning a large amount of energy each day, which is what some in the fitness industry refer to as a high calorie or energy turnover.

The reasoning behind this is that a high energy flux does more than merely burn calories. It also benefits our metabolism and physiology in other important ways by releasing a cascade of hormones, enzymes, and proteins that improve glucose control by enhancing insulin sensitivity. It also improves our cardiovascular health - better blood pressure, heart function, and peripheral blood

flow – along with our lung function, and can help achieve a better, stabler emotional state.

This stance is supported by a 2014 review of energy flux conducted by epidemiologists Gregory Hand and Steven Blair. In their paper, published in European Endocrinology, they noted that while exercise may offer minimal benefit to weight loss, it offers important health benefits, particularly as it has a profoundly positive effect on fat metabolism, especially visceral fat, and on insulin sensitivity, two of the most important markers of metabolic health.

"Energy flux, therefore, has an impact not only on weight change, but also on general health" and "high energy flux appears to be an optimal strategy for maintaining weight while improving metabolic strategies," they wrote.

In addition, a large review published in 2014 in US Endocrinology states that: "A combination of resistance training and aerobic exercise appears to be most effective in improving these parameters," and that "even without a change in body weight, there is typically a reduction in body fat as activity levels increase reinforcing the concept that energy expenditure or storage is a viable means to maintain a high energy flux."

AS JOSEPH S. ALPERT, M.D., EDITOR IN CHIEF OF THE AMERICAN JOURNAL OF MEDICINE. SAYS: "YOU ONLY HAVE TO EXERCISE ON THE **DAYS THAT YOU EAT."** 

#### NEIGHT LOSS TOOL

here are also those who suggest that weight loss could, theoretically, be easier in high flux conditions as all the major metabolic parameters are improved. This has led a few people in the fitness industry to base their commercially-driven weight-loss approaches and methodologies on the high energy flux theory.

It also benefits our

metabolism and physiology.

> One such programme is Ru Anderson's Exceed Nutrition. He suggests that "when you exercise more, you can eat more, (and) when you eat more, your body has the ability to change more. This is basic energy turnover; the relationship between the amount of energy put in from your nutrition and the amount of energy out, via exercise.'

According to Anderson,

the increased calories and exercise result in greater energy turnover which "appears to be the key to adding more lean muscle, reducing body fat and feeling awesome. It is a result of an increased metabolic rate, creating a better body.

STAND,

**TWIST** 

STRETCH,

**AND BEND** 

YOU CAN.

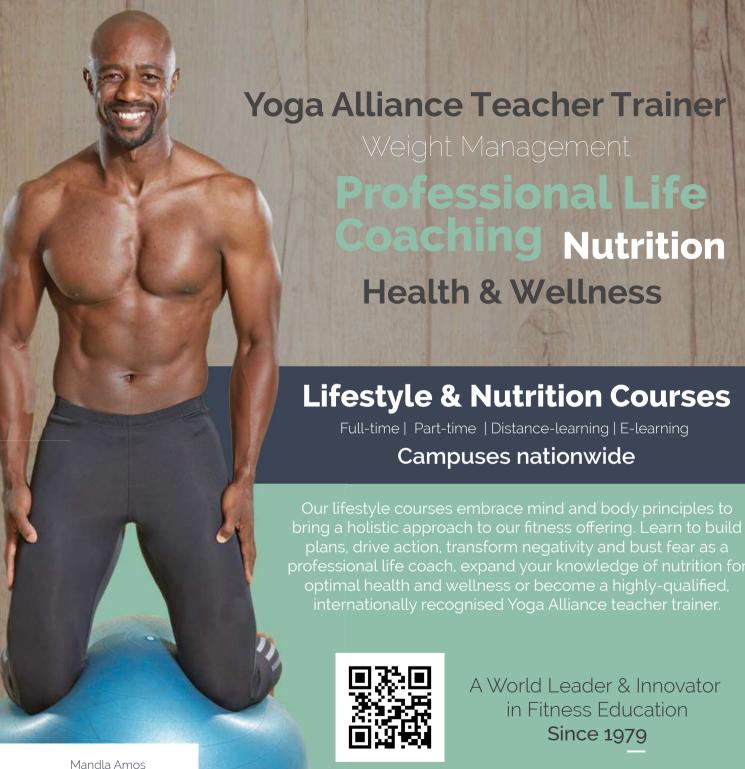
WHENEVER

Anderson explains that the concept works based on improved nutrient partitioning - our body's ability to use the food we feed it. "In other words, more calories go to our muscles for growth and repair, while less are put to fat cells for storage. We are also eating more high quality foods, meaning more vitamins, minerals and antioxidants are available to us, providing a much better recipe for long-term success," he is quoted as saving on his website, www.exceednutrition.com.

#### CONCLUSION

t may be true that you can't out-exercise a bad diet but, according to the energy flux theory, the key to life-long weight control is not only about finding the right balance between a healthy approach to eating and plenty of daily activity and exercise, but also finding the right level of both.

In this instance, energy intake must be balanced with energy expenditure to prevent weight gain, and there is an increasing body of evidence that suggests this point of weight homeostasis is best achieved at a relatively high level of energy flux. ■



in Fitness Education



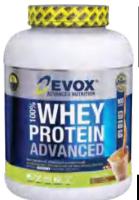






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Sports Nutrition School (SNS) by Glanbia International on Saturday, 19 March 2016. Defined as the study (science) and practice (application) of nutrition and diet supplements as it relates to athletic performance (fitness). SNS recognises that different sports require different approaches and, in particular, that the correct diet is the first source of nutrition for athletes, with sports nutrition providing supplements that help individuals or teams achieve performance goals and peak fitness. SNS events typically cover topics such as 'nutrition 101', a review of the global performance brands manufactured by Glanbia including Optimum Nutrition, best practice training techniques, sports psychology and motivation, and understanding product labelling, as well as live training sessions and quest speakers. Tickets include a goodie bag, product deals and plenty of spot prizes.

Visit www.optimumnutrition.co.za for more info or call 011 234-9890.



#### SSN N.O. RAGE



Beta-alanine is a naturally occurring beta amino acid and is increasingly used by athletes due to its performanceenhancing attributes. Beta-

alanine is the building block of carnosine, a molecule that helps buffer acid in muscles, potentially increasing physical performance. Beta-alanine has been shown to enhance muscular endurance and may also enhance moderate to highintensity cardiovascular exercise performance. It is famous for producing the "tingling" sensation which is a harmless side-effect that is often enjoyed by the more hardcore training fraternity. The performance benefits from beta-alanine are based on raising muscle carnosine concentrations. This will be more effective when supplemented on a regular basis.

# SCITEC 100% BEEF



Scitec's 100% Beef Concentrate is a complete, hydrolysed beef peptide protein manufactured from fresh raw beef material. It is a 100% natural product with no hormones

used. It is an enzymatically hydrolysed (virtually "predigested") beef protein, which means that its digestion and absorption will be fast. Offering a complete protein profile, this product delivers all the necessary amino acids, including the nine essential amino acids, needed by the body for tissue growth and maintenance. This beef protein also tastes great.

Available from Chrome stores nationwide or from chromesa.co.za.



Supashape products available at:



#### www.supashape.com

Supashape products are most effectively used as part of a complete weight loss program, including regular exercise and a healthy, balanced, kilojoule controlled diet.





# PROTEIN From Property of the P

be refrigerated for up to five days if covered, and up to three months if frozen in an airtight container.

Consuming protein within the first 30 minutes of waking helps

to break the night-time fast, delivering much needed amino acids to recovering

muscles. Research also shows that it leads to lower carb cravings throughout the day.

#### PEA PROTEIN PANCAKES

SERVES 4

1/2 cup tapioca flour

½ cup Phyto Pro Pea Protein Isolate

1 tbsp ground flaxseed

1½ tsp baking powder

1 tsp ground cinnamon

¼ tsp Himalayan crystal salt

1 cup almond milk, unsweetened

1 banana, mashed or 1 apple, puréed

2 tbsp honey

½ tsp vanilla powder

1. In a bowl, combine the tapioca flour, Phyto Pro Pea Protein Isolate, ground flaxseed, baking powder, ground cinnamon, and Himalayan crystal salt. Mix well.

2. In a second bowl, combine the almond milk, the mashed banana or puréed apple, honey, and vanilla powder. Mix well.
3. Slowly add half of the wet ingredient mix in

Slowly add half of the wet ingredient mix in bowl two to the dry mix in bowl one, stirring continuously to create your batter.

4. Thereafter, add the remaining wet ingredient mix to the batter, a ¼ cup at a time, to avoid a runny batter. Mix well after each addition. Stop when all the lumps have been mixed out.

**5.** Add coconut oil to a griddle or pan and heat over a medium heat.

6. Pour pancake batter into the pan – around a ¼ cup per pancake, and cook for 2-3 minutes, until you see bubbles forming on the surface. Do not lift until then.

7. Flip over and cook the other side for another 2-3 minutes.

3. Repeat with the remaining batter.

These pancakes contain 11g of protein per serving and taste just like regular pancakes - NO PEA FLAVOUR.



stockist. R155





ed meat in general and beef in particular contain all the essential amino acids – those we cannot synthesise ourselves – and the highly anabolic branched chain amino acids (BCAAs). Red meat is also a rich source of creatine, which helps increase energy production and contractile force within muscle cells during short, intense

#### contractions and therefore leads to gains in both strength and size.

Once beef is passed through an enzymaticallycontrolled process, you are left with a partially digested, or 'predigested' protein source that is highly bio-available and said to be highly anabolic due to its rich amino acid profile.

In terms of comparing these products

against whey, which is widely considered to be the gold standard of protein supplementation due to its high bio-availability and complete amino acid profile, beef protein products do offer one distinct advantage. Depending on the type and composition of the flavouring system used in whey products, the sugar content of these products can sometimes be quite

high - upward of 5g per serving. Conversely, many beef protein supplements contain much less sugar, with certain products boasting no sugar content at all. The lack of dairy-based proteins in these products will also remove the digestive complications often associated with whey or casein supplementation among lactose intolerant individuals.

For these reasons, beef extract protein supplements, which are currently available as beef protein isolate (BPI) or beef protein concentrate, are being touted as the next big thing in protein supplementation.



# SUPPORTING SCIENCE

s this is a relatively new product on the market, there is a need for a larger body of research to support the many claims being made of this product category's effectiveness.

However, there has already been one clinical study that sheds some light on the effectiveness of these products. The results from this double blind, placebo-controlled study were presented at the 2015 International Society of Sport Nutrition (ISSN) conference held in Austin, Texas.

The research team from the University of Tampa, in Florida in the US, and headed by lead researcher Matthew Sharp, aimed to determine the effects of post-exercise consumption of two servings of either a BPI or whey protein isolate (WPI), compared to a maltodextrin control on lean mass and strength during an eight-week resistance training programme.

Thirty college-aged, resistance-trained males and females were randomly assigned to one of three treatment groups - a BPI, a WPI or a placebo group. Subjects in the BPI group received two servings (46g) a day immediately after training or at the same time each day on rest days. The subjects trained five days per week, engaging in three resistance training sessions and two cardio sessions a week for the duration of the study. The researchers used dual emission x-ray absorptiometry to determine changes in body composition, with changes in maximum strength assessed by one-rep-max (1RM) tests for the bench press and deadlift.

The results showed that both the BPI (5.7%) and WPI (4.7%) groups significantly increased their lean body mass compared with baseline. Fat loss was also significantly decreased at eight weeks compared to baseline for both the BPI and WPI groups, at 10.8% and 8.3% respectively. The 1RM on both the deadlift and benchpress also increased significantly when compared to baseline. However, there was no significant differences in this increased strength between all three groups.

These findings led researchers to conclude that the "consumption of two-servings of beef protein isolate or whey resulted in

significant gains in lean body mass over time, which outpaced gains resultant from resistance training alone."

While these supplements had no discernible impact on strength gains above those achieved with training alone, it is worth noting in the context of this article that there was a small albeit distinct difference in the gains made by those consuming a BPI product over whey.

Additional studies are obviously needed to confirm these findings and will possibly be able to add more information to the potential benefits of beef protein supplements over whey or casein.

# CONSIDER THE SOURCE

ith that said, there is one final consideration needed before you give beef protein supplements a try. As with any supplement on the market, it is better to stick with trusted brands that can verify the source of their beef protein extracts.

We would all like to think that these beef powders are derived from the best cuts of meat from cows - the fillet, rump or sirloin. But consider for a moment the current cost per gram of red meat versus other protein sources, including dairy. They are generally much higher (refer to our cost per gram feature in this issue on page 78). Now, factor in the additional manufacturing required to produce these products and it just doesn't make financial sense to exclusively use prime cuts of meat.

Many products are therefore made from gelatin, a commercially-produced substance made when off cuts such as organs, ligaments, tendons, bones, hooves and hides, or other parts of a cow's carcass, are treated and filtered to produce a thick liquid that is then dried. This dried material can then easily be converted into powder form.

However, as can be expected, the amino acid profile of bones and off cuts isn't generally that good. While gelatin is likely to consist of the three main unessential amino acids, namely glycine, proline, and hydroxyproline, it is deficient in the essential amino acids and contains no tryptophan.

Accordingly, a glance at the label of a beef extract supplement will clearly show you how rich the product is in all the essential and non-essential amino acids, as well as its BCAA content. The higher the content the better the quality of the source of that protein, and the better the product.

Also, that's not to say that gelatin is the only protein source being used. Sometimes it may be a combination of meat and gelatin. Also, there is nothing inherently wrong with gelatin. In fact, it is used in the manufacture of many common foodstuffs, and there are a whole host of health benefits associated with it, including joint, skin and bone health due to its collagen content. So, if you eat processed meats or ground mince or use beef stock then you're already consuming the same parts of a cow. Jelly, marshmallows, and most soft sweets also contain gelatin.

#### **MAKING THE SWITC**

he key therefore is to ensure you buy products from reputable companies that you know adhere to strict labelling practices and use only the best ingredients in their products. As long as you trust the source and pay attention to the price (which should reflect the input costs), then you should be getting exactly what is stated on the label - a product that delivers a complete amino acid profile that will help you achieve your muscle-building and fat-loss goals.

The choice to swop beef protein and whey then becomes one of personal preference, but there is no reason why you can't combine the two if you aren't lactose intolerant and want to reap all the benefits that the new protein supplement on the block seems to offer.  $\blacksquare$ 

#### STUDY PROVES **HEALTH BENEFITS** OF IF DIETS

A study published in the journal Cell Metabolism showed that intermittent fasting may decrease risk factors for diseases such as diabetes, cardiovascular disease and cancer. Previous research on fasting also shows that this way of eating can have a beneficial effect on patients with high cholesterol levels in certain conditions, affect the process of inflammation and may even trigger stem cell regeneration.

# FORGET FISH

According to researchers at Wageningen University in the Netherlands, insect oil is a potential new source of healthy omega-3 fatty acids. The insect oil is currently a by-product of a protein extraction process and is generally discarded. Now, lead researcher Daylan Tzompa Sosa and her team are working together with entomologists and biological experts to examine the suitability of this insect-derived omega-3 fatty acids and lauric acid for use in supplements and food additives. The oil can also be extracted in a more environmentally friendly manner than other sources, with

a high yield. The Wageningen researchers are also working to determine the best diets to feed the insects to get the best quality oil.

THE UNITED NATIONS **DECLARED 2016 "THE** NTERNATIONAL YEAR THE PULSE" DUE TO THE NUMEROUS HEALTH BENEFITS AND SUSTAINABILITY OF THESE FOOD SOURCES, BE SURE TO ADD MORE DRY PEAS. **BEANS, CHICKPEAS, AND LENTILS TO YOUR DIET** THIS YEAR.



stay on track with healthy eating is between meals. Make snack time healthy with this snack idea from Pouyoukas.

#### **OAT BITES**

1 cup Pouyoukas whole rolled oats 2/3 cup coconut flakes

½ cup peanut butter

1/2 cup chia seeds

½ cup cocoa nibs

1/3 cup honey or maple syrup 3 tablespoons coconut oil

½ teaspoon vanilla powder

- 1. Mix everything together in a medium bowl
- Chill for 45 minutes.
- Roll the mixture into balls and enjoy.
- Store in the fridge.

Visit the Pouyoukas website at www.pouyoukas.co.za for more recipes.



**EAT CLEAN. LIVE HEALTHY** 



**MEN WHO FOLLOW A VEGAN DIET ARE 33% LESS LIKELY TO DEVELOP** PROSTATE CANCER, according to a new study conducted at Loma Linda University Health. The study, published in the January issue of the American Journal of Clinical Nutrition, saw a reduced risk in both white and possibly black males who adhered to a vegan diet without meat, dairy, and eggs.

#### **COFFEE FLOUR**

BRANDEIS BIOPHYSICIST DAN PERLMAN RECENTLY DEVELOPED THE PAR-BAKED COFFEE BEAN, A METHOD OF ROASTING GREEN COFFEE BEANS THAT ENHANCES THE **HEALTH BENEFITS OF COFFEE.** 

Perlman is developing flour milled from par-baked beans both as a food ingredient and a nutritional supplement. This process supposedly retains more of the coffee bean's beneficial natural compound called chlorogenic acid (CGA), which is an antioxidant thought to be beneficial in modulating sugar metabolism, controlling blood pressure and possibly treating heart disease and cancer. Perlman determined that par-baking the beans at 300 degrees for approximately ten minutes was best to maintain the concentration of CGA in the bean, which equates to around

10% of the bean's weight. However, the par-baked coffee bean can't be used to make coffee because it isn't roasted long enough to develop flavour. Instead Perlman cryogenically mills the bean in an ultra-cold and chemically inert liquid nitrogen atmosphere to protect the bean's beneficial constituents from oxidation, leaving you with a wheat-coloured flour that has a nutty taste and is pleasant and mild. This flour would offer a healthier alternative to wheat-based flour for possible use in baking, food manufacturing, or as a food supplement.



# DITCH THE SUGAR WITH THESE ALTERNATIVES

Added sugar is now widely considered to be the biggest contributor to the global health pandemic of lifestyle disease – diabetes, obesity, heart disease.

The bottom line is that sugar is bad for you.
Although it is a valuable fuel for our cells, it can be toxic when consumed often and in the incorrect

forms. According to world-renowned psychologist and nutrition expert, Patrick Holford, many people are understandably confused by the substantial differences between what various experts advocate as being healthy. "Some foods, for example, contain healthier sugars and are actually better for you than foods that are 'sugar free'," he says. Coupled with this confusion is the difficulty of managing the craving for sweetness. This is where, for the conscious minded, sugar alternatives come in. Holford suggests staying away from

any source of refined fructose, usually found in fresh juices, carbonated drinks and many processed foods, as well as white sugar, or sucrose.

"The most important thing", says Holford, "is to have less sugar overall, and get your sweet kicks primarily from whole foods. You can wean yourself off having a sweet tooth by gradually decreasing

the level of sweetness in foods and drinks. Also, by combining protein with carbohydrate foods, you can slow down the speed at which the sugars are released, lowering the glycaemic load (GL) of the food," he says. Additionally, by using a suitable alternative to sugar such as xylitol, a natural sugar alcohol with a GI of just 8, you can satisfy that sweet tooth without all the unwanted effects of excess sugar.

Patrick Holford's Xylitol can be found at Dis-Chem, leading pharmacies and health stores nationwide at a RSP of R69.95.





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#### NATURAL RESPONSE GONE WRONG

Before getting into the particulars of digestive inflammation, it is important to understand that acute inflammation in general is a natural immune response that plays an important role in recovery and tissue repair. Despite the common associations, it is not always undesirable and should not always be reduced or limited at all costs. However, sometimes the regulatory mechanisms that control this immune response malfunction. That is when we get chronic, often systemic inflammation.

When there is an inflammatory response to tissue near the surface, say skin, subcutaneous tissue or muscle, then the signs are

clearly visible. This inflammation is also generally accompanied by redness, irritation or a burning sensation. It is therefore much easier to identify and treat.

The problem with digestive inflammation is that we cannot see it, and diagnosing systemic inflammation in the gut is not an easy task. Blood tests are generally required to test circulating levels of pro-inflammatory protein markers or you need to sit in a doctor's room for six hours and deliver regular urine samples after drinking a solution. But to get to this point there needs to be other symptoms present, many of which are often attributed to other conditions before a link to digestive

inflammation and its associated maladies are even considered.

It is also a lot harder to pinpoint an exact cause for digestive inflammation as so many factors are at play at any one time, not just an overconsumption of sugar and processed food. However, they are major contributors to the problem, in addition to stress, medications, antibiotics, and infections.

According to Dr. David M.
Marquis, DC, DACBN, a clinical
nutritionist and chiropractor,
the majority of inflammatory
diseases start in the gut with an
autoimmune reaction
which progresses into
systemic inflammation.

When our systems are

bombarded with these stressors the initial response is some degree to acute, or primary inflammation aimed at dealing with it and repairing the damage caused. However, with the continued onslaught this process does not shut off and the body's immune response and a state of chronic or secondary inflammation sets in. This process aims to protect the cells under attack from destruction by allowing the tissue to change and adapt to the on-going stress in the area. This can result in swelling, stiffness, pain and the loss of function. If left unchecked this state can lead to the development of various degenerative conditions.

#### LEAKY GUT **SYNDROME**

As far as the digestive system is concerned, a state of chronic inflammation compromises the permeability of the cells in the gut. When this happens these cells are no longer able to function properly.

In an article written for mercola.com, Marquis explains that your gut is made of an incredibly large and intricate semi-permeable lining. "Its degree of permeability fluctuates in response to a variety of chemically-mediated conditions. For example, when your cortisol is elevated due to the stress or your thyroid hormone levels fluctuate your intestinal lining becomes more permeable in real time. Then you sit down to eat and partially undigested food, toxins, viruses, yeast, and bacteria have the opportunity to pass through the intestine and access the bloodstream."

This leads to the development of a condition known as leaky gut syndrome, a condition in which the walls of the intestine become inflamed and porous, allowing undigested food, bacteria, toxins, and other antigens to leave the gut where they would normally be digested, processed and eliminated, and they enter the bloodstream or other cells. In addition, many of the beneficial substances your body needs, such as nutrients and enzymes, are also lost due to the condition, and as this condition progresses the digestion process is further impaired and the absorption of nutrients is negatively affected.

Your immune system also starts to respond to the things in your body that shouldn't be there which results in additional inflammation caused by the natural auto-immune response. This is also when allergic reactions and other symptoms of common digestive maladies such as diarrhoea, constipation, gas, bloating, irritable bowel syndrome (IBS), celiac disease, and Crohn's disease, amongst others, occur.

However, this can also lead to symptoms and conditions that generally aren't associated with digestive ill-health such as brain fog, fatigue, poor sleep, anxiety, chronic joint pain, fevers, mood swings. anxiety, fatigue, or endocrine dysfunction. This happens because the anti-inflammatory auto-immune response releases chemicals called cytokines to deal with what the body perceives as foreign invaders - the

substances that have escaped from the gut and have no place or purpose circulating in the body.

A growing number of practitioners of alternative and functional medicine - those who look at the body as a functional, interconnected system as opposed to specialists who focus on one specific area of the body feel that these cytokines, in the process of trying to solve one problem, end up causing further, often more serious damage to muscles, connective tissues, joints, and even organs, as well as the brain and nervous system. This has led some within these medical communities to suggest that digestive inflammation and the resultant auto-immune cascade can be linked to such devastating conditions as Alzheimer's disease, Parkinson's disease, multiple sclerosis and even autism.

There are also those in the medical community who refute these claims on the basis of a lack of supporting evidence, while others suggest these claims are merely associational and have led to a great number of misconceptions and misinformation within the public realm.

Putting the theories behind these debilitating and often life-threatening conditions aside, the fact remains that leaky gut syndrome is now recognised within the mainstream medical profession as a legitimate and increasingly common condition.

A recent article published in Time magazine says that the latest science supports this stance. However, it appears that it is not just digestive inflammation and the resultant gut permeability that is to blame. A team of researchers led by Dr. Alessio Fasano, director of the Mucosal Immunology and Biology Research Center at Massachusetts General Hospital in Boston, have identified a gut protein called "zonulin," that regulates the openings between the cell walls in your intestine. This protein apparently has the ability to widen or tighten openings, or junctions in the gut lining, which is what allows larger molecules to escape into the rest of the body to cause the allergies or auto-immune diseases that plague so many people today.

LEAKY GUT SYNDROME IS NOW RECOGNISED WITHIN THE **MAINSTREAM MEDICAL PROFESSION AS A LEGITIMATE** 

AND INCREASINGLY COMMON CONDITION.

stress, be it lifestyle, food, or exercise related, results in the release of hormones such as cortisol and catecholamines that affects your digestive system negatively if you remain in this state for prolonged periods of time.

POOR DIETS - Sugar, processed foods, and manufactured fats and vegetable oils inflame your gastrointestinal (GI) tract. Alcohol is also a major culprit. A lack of fibre also increases bowel transit time which allows decomposing foods (especially meat) and the byproducts of digestion to build up. This irritates and inflames the GI tract even further. These foods also increase the acidity of your digestive system. Food allergens such as dairy proteins and sugars, gluten, and wheat also contribute to digestive inflammation.

MEDICATION - Antibiotics kill everything in your digestive, not just the 'bugs' they are tasked with destroying. This includes important digestive enzymes and probiotics - the beneficial gut bacteria that comprise your digestive microbiome and work to digest and aid in the absorption of the nutrients from the food you eat. Antiinflammatory drugs such as NSAIDs or corticosteroids can also damage the intestinal lining.

Changes in the production and levels of important metabolic hormones such as thyroid hormone, progesterone, estradiol, and testosterone can result in chronic inflammation.

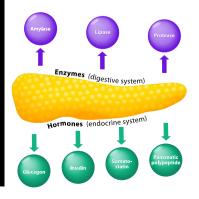
#### THE EIGHT PRIMARY DIGESTIVE ENZYMES AND THEIR FUNCTIONS ARE:

mylase: Digests carbohydrates Cellulase: Breaks down fibre Lactase: Digests milk sugar (lactose) in dairy products **ipase:** Digests fats **lattase:** Converts complex sugars from grains into glucose ytase: Helps with overall

producing the B vitamins tease: Digests proteins se: Digests most sugars

digestion, especially in

#### **ENZYMES AND HORMONES**



CONSTANT STRESS, BE IT LIFESTYLE. FOOD, OR **EXERCISE** RELATED, RESULTS IN THE RELEASE OF **HORMONES** SUCH AS **CORTISOL** IMPERATIVE TO EXE<u>RCISE</u> TO RID YOURSELF OF

#### PROTECTING THE MICROBIOME

Compounding the issue further is the fact that our modern diets, and the overuse of medication and antihintics, and the resultant chronic inflammation devastates our internal microbiome. This includes the essential prebiotics and probiotics we need, and essential digestive enzymes.

On his website, Dr. Joseph Mercola, author of the three New York Times bestsellers, The Great Bird Flu Hoax. The No-Grain Diet, and Effortless Healing, explains that insufficient enzyme production is at the root of much of modern society's "tummy trouble".

These digestive enzymes, produced by the pancreas or ingested from the food we eat, help us break down food into smaller parts that can be absorbed, transported and utilised by the body.

However, the conditions already discussed (diet, medicines, stress, acidity) break down the digestive enzyme's delicate chain structure, which is when the enzyme becomes

"denatured"—it changes shape and loses its ability to perform.

We also get fewer digestive enzymes from our diets as heating vour food above 46.6°C renders most enzymes inactive. We also don't eat sufficient raw, living plant food to replenish our diaestive enzymes.

This causes a change in the aut's microbiome. which is also increasingly being linked to the prevalence in the various lifestyle-related diseases, and the obesity pandemic. According to Dr. Mercola, the resultant enzyme deficiency results in poor digestion and poor nutrient absorption. This creates a variety of gastrointestinal symptoms, including constipation, bloating. cramping, gas, heartburn and acid reflux. Chronic

malabsorption can also lead to a variety of illnesses.

Furthermore, enzymes, particularly the proteindigesting protease group. are also needed to help with gut healing. They also control pathogens and support the immune system. "Your immune system begins in your gut and if you have enzyme and digestive issues, chances are your immune system isn't functioning as well as it should be," Dr. Mercola is quoted as saying.

When your digestive enzymes and gut flora (probiotics and other beneficial microbes) are in balance and stable, and are functioning as they should, your microbiome is able to suppress

gut inflammation and intestinal permeability is reduced. "YOUR IMMUNE SYSTEM BEGINS IN YOUR GUT—AND IF YOU HAVE ENZYME AND DIGESTIVE ISSUES, CHANCES ARE YOUR IMMUNE SYSTEM ISN'T FUNCTIONING AS WELL AS IT



#### COMBATING DIGESTIVE INFLAMMATION

This dietary approach is often referred to as an anti-inflammatory diet. It should include lots of raw organic fibrous and leafy green vegetables, preferably freshly picked and unwashed. Add more sources of natural probiotics to your diet such as cultured dairy products like kefir and natural full-fat yoghurt, and fermented foods

like sauerkraut. Foods such as onions, garlic, leeks, chicory, bananas and Jerusalem artichokes also provide the gut with the prebiotic inulin, which is a type of fibre that gut flora consume and convert to helpful short chain

drink sufficient fresh or filtered water throughout the day. It is therefore also beneficial to avoid coffee or caffeinated drinks and

anything else that dehydrates

fatty acids. Limit your

intake of meat and

nuts, but don't avoid

them, and ensure

a suitable intake of

Proper hydration

saturated fat.

is also essential

in this process so

of lactobacillus acidophilus and bifidobacteria bifidum, which need to refrigerated to be kept alive. Adding digestive enzymes, particularly those rich in plant

you, along with alcohol and sweetened drinks.

You can also look to supplement your healthy diet with added prebiotics and probiotics to help repopulate the gut. This helps to boost the immune response and restore healthy digestive function.

The best probiotics include live strains enzymes such as bromelain, along with additional omega-3s

essential fatty acids can also help to reduce inflammation and aids the repair of damaged cells in the digestive system. Glutamine is another supplement that can help to repair the mucosal lining of your digestive system, and is also a preferred food of cells in your small intestine.

And, lastly, adopting an active lifestyle that includes regular exercise is also essential in creating a healthy internal environment free from inflammation and the resultant health maladies.

FOODS SUCH AS ONIONS, GARLIC, LEEKS, CHICORY, BANANAS AND ARTICHOKES PROVIDE THE GUT WITH PREBIOTIC INULIN.



#### **A PHILIPS AVANCE AIRFRYER**

The Philip Avance Airfryer's unique Rapid Air technology enables you to fry, bake, roast, and grill the tastiest snacks and meals with up to 80% less fat than a conventional fryer. Its unique combination of fast circulating super heated air, starfish design, and optimal heating profile allows you to fry a variety of foods in a fast and easy way with no oil.

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#### **B** WONDERBAG

The Wonderbag is a proudly South African non-electric slowcooker. Simply bring food to the boil using conventional cooking methods, then place it into the Wonderbag where the meal will continue to cook for up to 12 hours without any additional energy input required. This also retains essential nutrients and juices. R230-400 Available at all Outdoor Warehouse stores, select Hirsch's branches and online at www. wonderbag.co.za.

#### SMARTLIFE **BY KAMBROOK FOOD STEAMER**

Kambrook steamers offer a simple and healthy option for preparing everyday meals. With two steaming baskets and a 60-minute timer, this product makes cooking healthful meals for the entire family quick and easy.

R439 Available from Clicks stores nationwide.

#### OSCAR **DA1000 JUICER**

An adjustable pulp knob allows the juicer to extract around 3-5% more juice from your fruits and vegetables. Great for extracting juice from leafy greens such as wheatgrass and spinach, soft fruits and vegetables such as pineapple or tomatoes, and also the hardest of vegetables.

R5,289 www.yuppiechef.co.za



# PACKED MEALS

#### CARB-UP OPTIONS

LOOKING TO HIT ALL THREE MAJOR MACROS OVER LUNCH? TRY THESE WHOLEWHEAT WRAP RECIPES THAT OFFER A GREAT SOURCE OF COMPLEX CARBS, ALONG WITH HEALTHY FATS AND, OF COURSE, THAT ALL-IMPORTANT PROTEIN.

#### SALMON AND ASPARAGUS WHOLEWHEAT TORTILLA WRAP

Makes 2 tortilla wraps

6 thin asparagus spears 1/4 cup fat-free cream cheese

¼ cup fat-free yoghurt

1 tbsp lemon juice

Cayenne pepper

200g smoked salmon

2 tbsp basil

2 cups rocket and lettuce

1 tomato, sliced

1 sweet pepper, sliced

2 wholewheat tortilla wraps

Snap off and discard woody bases from asparagus. In a covered large saucepan, cook asparagus spears in a small amount of boiling lightly salted water for 3-5 minutes or until crisp and tender. Drain and plunge into ice water to cool quickly. Drain again; pat dry with paper towels.

2. In a small bowl, stir together cream cheese, lemon juice, yoghurt and cayenne pepper. Fold in flaked salmon and basil. Spread on tortillas.

For wraps, arrange 3 of the asparagus spears in half and chill in the fridge before serving.

Asparagus is a low-calorie source of folate, potassium and vitamin C. It also contains fructooligosaccharides (FOS), which promotes the growth of beneficial bacteria in the colon and the stalk is packed full of antioxidants.

Every guy needs that go-to quick and easy healthy meal option when he doesn't have time to prepare a full-on meal. When this is the case a wrap is a great option. It is easy to make and it is a versatile meal as there are many options for fillings or even the wrap itself. They're also a great hand-held meal option, allowing you to munch on the move. Here are four protein-packed wrap recipes that any guy can make.



#### WHOLEWHEAT FILLET WRAP

Makes 3 wraps

3 wholewheat wraps 400g fillet, cut into strips ½ cup diced spring onion Rocket

1 cup grated carrots Lettuce

200g Chinese egg noodles Asian plum sauce Soya sauce (reduced sodium)

Place fillet strips into a bowl, add salt, pepper and a splash of soya sauce. Heat the pan and add 2 teaspoons of olive oil. Wait for the pan to reach a high heat (indicated by slight smoke) then flash fry the fillet strips for about 2 min. Remove from the pan and set aside to rest.

Prepare the noodles by heating a pot of water on the stove and boiling them for 4 minutes. Rinse then drain.

Heat the wraps for 30 seconds in the microwave. Place 1 wrap on a plate and spread plum sauce lightly over it. Place the lettuce, rocket, onions, noodles and carrots in the wrap, add the rested fillet to the top and wrap tightly. Cut in half and serve with a salad.

#### MAKE YOUR OWN

IF YOU DON'T WANT ALL THE EXTRA
PRESERVATIVES AND ADDITIVES
THAT COME IN STORE-BOUGHT
WHOLEWHEAT WRAPS THEN MAKE
YOUR OWN. YOU CAN MAKE A BATCH
AND FREEZE THEM FOR THE WEEK
AHEAD. QUICK AND EASY.

2 cups white wholewheat flour 3 tbsp extra virgin olive oil ¾ tsp salt 150ml warm water

 Mix the flour, oil and salt together in a bowl.
 Slowly add the warm water while stirring until a rough dough comes together. Add a little extra water if needed.

2. Turn the dough onto the counter

and knead for about two minutes. Return to bowl and let rest for 20 minutes.

3. Divide dough into 8 equal balls. Roll each ball into a thin circle. Heat a pan over medium high heat and grease lightly.

4. Drop one dough circle into the pan and cook it for about 1 minute until bubbles form.

Flip it over and cook for

another minute.



CARB-FREE TRYING TO GET LEAN OR KICK THE CARBS? NOT TO WORRY, THERE ARE PLENTY OF SUITABLE Easily create your wrap of choice by using any type of ALTERNATIVES TO STILL meat and cuts, from chicken or turkey to salmon or red GET YOUR CONVENIENT HEALTH KICK OVER meat. Biltong is another great option. If lettuce is too dreary, substitute it with fresh spinach and kale. You can also include LUNCH. cooked veggies with your wraps for a warm option. 2 cooked chicken breasts, cut into small pieces 1 head butter lettuce 1 tablespoon olive oil 2 cloves garlic, minced 1 onion, diced 2 tbsp soy sauce 1 tbsp rice wine vinegar 1 tbsp freshly grated ginger 1 celery stick, sliced 2 green onions, thinly sliced 6 baby tomatoes, sliced Himalayan salt and freshly ground black pepper, to taste Heat olive oil in a saucepan over medium high heat. Add chicken and cook until browned, Stir in garlic, onion, soy sauce, rice wine vinegar, and ginger for about 1-2 minutes until onions become translucent. Stir in celery, tomatoes and green onions until tender, about 1-2 minutes. Season mixture with salt and pepper to taste. Spoon mixture into the centre of a lettuce leaf and serve. Place the steamed cauliflower in a dish 1 head of cauliflower towel and squeeze out as much excess 2 large eggs Himalayan salt and freshly ground water as you can. Transfer the cauliflower to a bowl. Add in black pepper the eggs and season to taste. Separate the mixture into 6 balls of equal size, and spread each ball out on a 1. Cut up and remove the stems from the

parchment-lined baking sheet to make six

Preheat your oven to 190°C. Place in

the oven and bake for 8 to 10 minutes

Flip and cook for another 5 minutes.

small circles.

head of cauliflower.

Rice your cauliflower by placing the cut head

you get a fine textured cauli rice. Steam the riced

into a blender or a food processor. Pulse until

cauliflower over boiling water for 5 minutes.

## IN THE DIETARY DEBATE AROUND MACRONUTRIENT RATIOS, ONE SOURCE REIGNS SUPREME

# >> By Werner Beukes, Deputy Editor

VALID OR NOT?

n the
quest for
constant
physical
progression
and performance
enhancement the age-old debate
on the importance of protein
resurfaces time and time again in
gym circles and even among coaches
and hard-training athletes.

In the one corner deticians warn us against the excessive consumption of protein while others continue singing its praises for boosting recovery and aiding muscle growth, and rightly so. Besides the repetitive arguments over the quantity and quality, the precise timing is also of importance, but have we become too obsessed with protein?

#### WHATS ALL THE FUSS ABOUT?

There is no question that protein is a big deal in a society caught between a spike in obesity statistics and a trend to eat and lead a healthier life. Athletes have known for decades the longer and harder you train the more protein you need to stop the offset of muscle-derived amino acids that the body cannibalises

during exercise.

An average person needs around 0.8 grams of protein per kilogram of bodyweight a day which adds up to approximately 56 grams for males and 46 grams for females, according to the Food and Nutrition Board at the Institute of Medicine.

Protein needs are however



highly dependant on what sort of life you lead. If it is a predominantly sedentary one where you only walk from your office to your car and then to the dinner table before falling asleep in front of the TV - all the protein you consumed during the day won't be converted into muscle as the body repairs itself but instead will be stored and if left unused turn into fat

#### PROTEIN OVERLOAD QUESTIONED

Some nutritional experts don't believe in additional requirements saying that it is a myth construed by clever marketers to sell truckloads of protein.

Looking at scientific literature, experts often cite studies such as the one conducted by Hartman et al. (2006) as credible evidence that it is not necessary to ingest very large amounts of protein during training as muscle and strength could also increase on a relatively low protein intake of between 1.2 and 1.6g/kgBW/day.

It is further argued that the consumption of processed and red meats as well as foods rich in saturated fat and protein have been linked to high rates of cancer and heart disease. Overdosing on protein will only put extra pressure on a person's kidneys which could lead to digestive problems and long-term health issues with a build-up of insulin, ammonia and other toxic substances in the bloodstream.

Protein proponents on the other hand support an intake of between 1.6g/kg to 1.8g/kg for hard-training athletes who need more protein in a surplus rather than in a deficit. A diet high in eggs, steak and chicken breasts is recommended to build muscle, aid fat loss and support the immune system.

#### OF PROTEIN

When you eat protein it is broken down into usable amino acids responsible for promoting growth and repairing and maintaining muscle tissue, as well as developing tendons, bones and other tissues. There are a total of 21 amino acids, nine of which are important to be consumed through food (essential), four of

which the body can synthesise on its own (non-essential), and eight of which we need to increase during times of injury, illness, or stress [conditional]

- The essential amino acids are Isoleucine, Leucine, Valine, Methionine, Phenlylalanine, Threonine, Tryptophan and Lysine.
- The non-essential amino acids are Alanine. Asparagine, Aspartic acid and Glutamic acid.
- **Conditional amino acids** are Arginine, Cysteine, Glutamine, Tyrosine, Glycine, Ornithine, Proline and Serine.

The main goal of traditional post-workout nutrient timing is to replenish glycogen stores as glycogen is considered essential to optimal resistance training performance, with as much as 80% of ATP production during such training derived from glycolysis. Bodybuilding is associated with typical high volume training involving multiple exercises, reps and sets for the same muscle group that deplete the majority of glycogen stores.

#### HOW MUCH IS ENOUGH?

**Dietary guidelines for Americans** for 2015-2020, which are generally aligned with the most recent scientific evidence, recommend a reduction in added sugars to 10 percent of daily calories in order to stave off diseases like diabetes and heart disease. It is a constant battle to stick to these guidelines because of a general overconsumption of processed food and sugary beverages, not only in America but across the world. The same guidelines also recommend that teen and adult males limit protein intake from animal sources and that everyone limit their intake of saturated fat, which usually comes from meat and dairy products.

What about bodybuilders, athletes and powerlifters? Researcher Menno Henselmans. who recently broke down numerous studies looking at optimal protein intake, concluded there was no

advantage to consuming more than 1.8g/kg of protein per day to preserve or build muscle.

However, there are instances when the body is better able to process and use more protein. Those who use anabolic steroids. for example, can eat more protein as these ergogenic aids enable the body to assimilate far more than what you normally would be able to.

As a bodybuilder gets more advanced optimal protein decreases as you become more efficient at preventing protein breakdown when you train, leading to lowered protein requirements for the increasingly smaller amount of muscle built after each gym session.

The sports nutrition bible, The Complete Guide to Sports Nutrition, says that the International Olympic Committee Consensus on Sports Nutrition recommends athletes consume 1.7a of protein per ka of bodyweight which is considered the ideal amount to help muscles repair and regrow.

#### IPROTEIN TIMINGI

And is there any merit to protein timing? This dietary manipulation tool is basically defined as key times in which to consume high protein foods to encourage muscle growth and supply the body with nutrients to rebuild, repair and replenish muscles?

Athletes normally consume carbohydrates and proteins within an hour after a workout which is often called the "anabolic window of opportunity". Research suggests that nutrient timing can be a beneficial strategy for muscle gains but the "window of opportunity" could be much wider than previously assumed, at around four to six hours after a training session, depending on whether an athlete consumed a pre-workout meal or not.

According to the latest research by Reidy and Rasmussen (January 2016), who studied the role of ingesting amino acids and protein in the promotion of resistance exercise-induced muscle protein anabolism, total protein intake per day, rather than protein timing or quality, appears to be a more important factor.



#### CONCLUSION

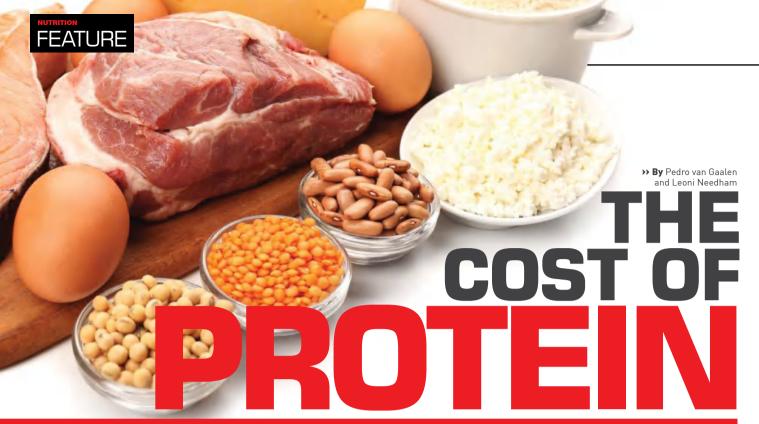
Scientific evidence suggests that protein supplementation may promote muscle hypertrophy, enhance strength and accelerate gains when your training stimulus is adequate and your diet is consistent with what is needed to enhance gains in strength and performance.

Controversy surrounding protein is complex as there seems to be no "onequantity-for-all" solution.

Recommended figures for athletes depend on the consumption of other nutrients, particularly carbohydrates for energy which will have a proteinsparing effect, the type of exercise as well as individual and lifestyle factors.

Balance seems to be the golden thread when it comes to protein consumption. Apart from meat and chicken there are reliable non-animal options such as lentils, Greek yoghurt, peanut butter and chickpeas which can be used to cycling protein sources.

Protein before, during and after training can also assist in maximising favourable training adaptations, with the best strategy to spread out your intake evenly over meals throughout the day based on your individual needs. This strategy is backed up by the science of muscle protein synthesis being 25 percent greater when protein intake is evenly spread out over three meals as opposed to eating everything in a single sitting.



#### GET THE BIGGEST PROTEIN BANG FOR YOUR BUCK

s the debate around carbs and fats rages on, one thing that remains certain is the importance of adequate protein in the diet, especially if your goal is optimal physique development and recovery from exercise.

Importantly, proteins are the

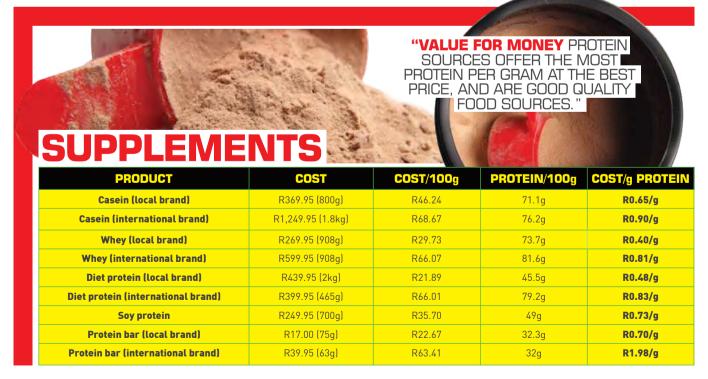
building blocks of muscle tissue. Our bodies require the constituent amino acids from the foods and supplements we digest to repair the damage caused by exercise and daily movement. Proteins also play vital roles in a whole host of important biological processes including our immune response, enzyme function,

and cell signalling. In certain instances, ingested and musclederived protein can also be used to produce energy.

Unfortunately for health and physique-conscious consumers, protein is usually the most expensive item on our weekly shopping lists. Also, not all proteins are created equal so you want to

ensure you're getting the most bang per bite, and the most bang for your rand.

To help inform your next trip to the grocery or supplement shop, we visited three leading retail stores to collect prices to take a closer look at the best sources of protein from a rand-per-gram perspective.





PRODUCT	COST	COST/100g	PROTEIN/100g	COST/g PROTEIN
Fillet steak	R209.99/kg*	R20.99	20g	R1.05/g
Rump steak	R112.49/kg*	R11.24	22g	R0.51/g
Sirloin steak	R139.99/kg	R13.99	20g	R0.69/g
Mince	R64.99/kg	R6.49	14g	R0.46/g
Mince (extra lean)	R89.99/kg	R8.99	17g	R0.53/g
Biltong  Octrich	R224.98/kg*	R22.49	53g	R0.42/g
Ostrich	R44.99/500g	R8.99	22g	R0.41/g
Pork	R82.49/kg*	R8.24	21g	R0.39/g
Bacon	R141.95/kg	R14.19	13g	R1.09/g



# "NOT ALL PROTEINS ARE CREATED EQUAL

SO YOU WANT TO **ENSURE YOU'RE GETTING THE MOST** BANG PER BITE, AND THE MOST BANG FOR YOUR RAND."

fitnessHIS 4	PRODUCT	COST	COST/100g	PROTEIN/100g	COST/g PROTEIN
VESO	Eggs	R 41.99/18 tray	R 3.99	12.5g	R 0.32/g
MONEY	Chicken breast	R 64.99 (1kg)*	R 6.49	19.3g	R 0.34/g



	PRODUCT	COST	COST/100g	PROTEIN/100g	COST/g PROTEIN
	Salmon (fresh)	R640.00/1kg	R64.00	20g	R3.20/g
	Salmon (tined)	R152.33/1kg	R15.33	23.5g	R0.65/g
4	Hake	R79.99/kg	R7.99	17.3g	R0.46/g
	Tuna (tin in brine)	R94.05/kg	R9.40	25.9g	R0.36/g
	Sardines (tin)	R116.58/kg	R11.56	19.4g	R0.60/g

# DAIRY

PRODUCT	COST	COST/100g	PROTEIN/100g	COST/g PROTEIN
Yoghurt (low fat)	R25.99/kg	R2.59	3.5g	R0.74/g
Yoghurt (full cream)	R23.99/kg	R2.39	3.8g	R0.63/g
Cottage cheese (low fat)	R72.00/kg	R7.20	11.8g	R0.61/g
Cottage cheese (full cream)	R88.00 (1.82kg)	R4.83	11.1g	R0.44/g

"SOY IS A COMPLETE VEGETARIAN
PROTEIN SOURCE. TEMPEH IS A FERMENTED
OPTION THAT OFFERS DIGESTIVE HEALTH BENEFITS.
TOFU IS ALSO A GREAT SOY BEAN OPTION,
BUT IS MORE EXPENSIVE"

#### VEGETARIAN

PRODUCT	COST	COST/100g	PROTEIN/100g	COST/g PROTEIN	
Green peas (canned)	R32.90/kg	R 3.20	5.4g	R0.59/g	
HIS Split peas	R25.98/kg	R2.59	9g	R0.29/g	
Soy beans Pistachio nuts	R16.68/500g	R3.33	10g	R0.33/g	
Pistachio nuts	R169.00/500g	R33.80	20.6g	R1.64/g	
Lentils (green)	R28.95/500g	R5.74	26g	R0.22/g	
Lentils (black)	R20.98/kg	R2.10	30.2g	R0.07/g	
Mixed nuts	R33.30/100g	R33.30	16.5g	R2.02/g	
Quinoa	R151.47/500g*	R30.30	13g	R2.33/g	
Chickpeas	R50.98/kg	R5.10	20g	R0.26/g	
Tofu	R42.58/400g	R10.64	12g	R0.89/g	
Sesame seeds	R31.95/200g	R12.78	16.9g	R0.76/g	
Sunflower seeds	R38.95/500g	R7.79	23.3g	R0.33/g	
Poppy seeds	R25.95/160g	R16.21	18g	R0.90/g	
White beans	R36.98/kg	R3.70	4.6g	R0.80/g	
Kidney beans	R49.98/kg	R4.99	22.5g	R0.22/g	
Kidney beans (canned)	R34.12/kg	R3.41	5.2g	R0.65/g	
Mung beans	R59.95/500g	R11.99	25.6g	R0.47/g	
Peanut butter	R97.54/kg	R9.75	25g	R0.39/g	
Almond butter	R169.95/400g	R42.48	15g	R2.83/g	

\*denotes average price when large price discrepancies were found between stores. \*\*prices valid as of December 2015. Prices may vary between stores.

#### **BEWARE THE VEGGIE TRAP!**

hile vegetarian sources of protein may seem like the best value for money, it is important to understand that many plant-based sources do not contain all of the essential amino acids – those that our bodies are unable to produce naturally –

which would require that you eat a variety of sources throughout the day to get all the amino acids your body requires. Obviously, if you're not vegan or vegetarian you don't need to include every plant-derived essential amino acid in every meal. Also, vegans and vegetarians don't need to

combine plant-based protein sources at every meal to create "complete protein profiles" – a common misconception with regard to these diets. Simply eating sufficient protein sources and a variety of foods will suffice.





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